Rocky Mountain
Remediation Services, L.L.C.
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RF/RMRS-96-0071

Reconnaissance Level Characterization Report

For The 779 Cluster

December 1997

12/24/97

ADMIN RECORD
B779-A-00019

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT

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ACRONYMS

ACM	Asbestos Containing Material
Am	Americium
Be	Beryllium
CCR	Colorado Code Of Regulations
CFR	Code Of Federal Regulations
Co	Cobalt
DOE	U. S. Department Of Energy
DQO	Data Quality Objective
EPA	U. S. Environmental Protection Agency
FY	Fiscal Year
HASP	Health And Safety Plan
HVAC	Heating, Ventilating, Air Conditioning
IH	Industrial Hygiene
OSHA	Occupational Safety and Health Act
PA	Protected Area
Pu	Plutonium
QA	Quality Assurance
QC	Quality Control
R&D	Research And Development
RFETS	Rocky Flats Environmental Technology Site
RLCP	Reconnaissance Level Characterization Plan
RLCR	Reconnaissance Level Characterization Report
RMRS	Rocky Mountain Remediation Services, L. L. C.
Sr	Strontium
U	Uranium
WMP	Work Management Plan
Y	Yttrium

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

1.0 INTRODUCTION

Due to the change in mission of the Rocky Flats Environmental Technology Site (RFETS) from the production of nuclear components to environmental cleanup and shutdown, Building 779 and its associated facilities have no identified mission after FY96. Therefore, the 779 Cluster is being decommissioned to reduce operating costs and to eliminate hazards within the Cluster's buildings. The 779 Cluster consists of Buildings 727, 729, 779, 780, 780A, 780B, 782, and 783 through 787 and is located within the RFETS Protected Area (PA) (see Figure 1-1).

1.1 PURPOSE

The purpose of this Reconnaissance Level Characterization Report (RLCR) is to summarize the available historical data and process information pertaining to the 779 Cluster in an effort to characterize the subject facilities. The level of characterization achieved is commensurate with the project planning effort. A review of historical information was performed to identify the type, quantity, condition, and location of radioactive and hazardous substances which are, or may be, present in the subject facilities. The 779 Cluster reconnaissance characterization information serves as a practical reference for use during the decontamination and decommissioning efforts.

1.2 SCOPE

This report has been prepared in support of the Building 779 Cluster project planning efforts. Figure 1-1 shows the location of the Building 779 Cluster facilities.

The information presented in this report pertains to the 779 Cluster facilities. The review of historical records and the collection of process knowledge information covers the operational time period from original cluster construction to present.

1.3 METHODOLOGY

The general methodology employed for the preparation of this report involved the identification, location, collection, and review of available 779 Cluster records. The information sources examined, in the course of this effort, are listed in Section 5.0.

The information collection process included interviews with RFETS employees who had first-hand process knowledge of the 779 Cluster operations. The specific individuals interviewed, in the course of this effort, are identified in the project files.

Comprehensive physical inspections of all accessible areas of the 779 Cluster were conducted during the months of November 1996 through November 1997 and will continue as decommissioning progresses. The primary purpose of these inspections was to:

- Confirm the accuracy of file documentation pertaining to as-built or modified facility construction equipment installations and general facility conditions

- Obtain volume estimates for wastes that will be generated during removal activities
- Identify equipment, structure, process lines, and associated items that will require hazardous and/or radioactive surveys and analytical sampling to further characterize the cluster
- Identify potential sources of lead and asbestos
- Identify potential chemical contamination (chemical contamination would be identified by signs of staining or unusual odor)
- Identify physical hazards (such as tripping hazards, loose/missing handrails, etc.)

A summary of conditions within each area of the 779 Cluster is provided in Appendix A. Appendix A also identifies surveys or sampling that has been completed as a part of the Reconnaissance Characterization effort.

1.4 SUMMARY

A detailed examination of process knowledge and documents, relating to the 779 Cluster was initiated in September 1996. As part of this examination, a comprehensive survey of historical records was undertaken to determine the location and characterization of any radioactive and hazardous contaminants which may be present in the area. A room by room summary of relevant process knowledge and characterization information is presented in Section 4.0. After the project walkdown (see Section 1.3), an assessment of the necessity to complete further characterization to identify the type of contaminants to be sampled was determined using the Data Quality Objective (DQO) process. The results of the DQO process is documented in the RLCP for the Building 779 Cluster. This document (RLCR) summarizes the characterization information gathered and obtained by implementing the RLCP. As a part of the RLCP examination, a comprehensive survey of historical records was undertaken to determine the location and character of any radioactive and hazardous contaminants. The following is a summary of characterization information:

- Presently, the 779 Cluster is in a safe shut-down condition. All required utility services (i.e., electrical service, and water supply) are active. Building air ventilation and High Efficiency Particulate Air filtered exhaust systems, instrument air supply compressors, and necessary radiological monitoring instrumentation systems are in normal continuous operation. All manually-actuated and automated fire/alarm suppression systems are operational. All installed facility security and radiological alarm systems are normal. All remote-handling mechanisms and auxiliary facility support equipment are operational or are available for activation and use.
- The 779 Cluster presently houses a significant quantity of material and equipment which are radioactive, radioactively-contaminated, and/or contain lead, asbestos, beryllium (Be).

- Building 779 was used for Research and Development (R&D) in support of nuclear weapons production. Although a wide variety of plutonium (Pu) activities were conducted in the building, large quantities of Pu were not processed. Areas of Pu holdup within the building have been identified and the areas with significant quantities (above Category C) were cleaned up to a Category D or below during the deactivation process. Room 228 contains a gamma-cell experimentation device, which contains a radioactive cobalt 60 source. The Building 779 Holdup Results are detailed in Appendix B of this report.

- Contamination from Pu, Be, Uranium (U), and other materials processed in Building 779 is known to exist (see Appendix A).

- The majority of excess chemicals were removed as a deactivation activity. Newly identified chemicals will be either identified for reuse, managed in accordance with 40 Code of Federal Regulations (CFR) 262.11, or managed in accordance with the Chemical Order on Consent. Appendix G contains a listing of excess chemicals associated with the 779 Cluster.

- Machine, hydraulic and lubricating oil, and grease exist in various machines in Building 779. Equipment which was thought to contain hazardous waste was included in the Idle Equipment Program. This ensured that the equipment fluids would be tested for the presence of hazardous substances. Equipment fluids found to contain a hazardous substance were removed during deactivation. Two pieces of equipment have become idle during the 779 Cluster Decommissioning planning phase. Characterization and management will be performed in accordance with 40 CFR 261.4C. Appendix F identifies this equipment.

- Due to the age of the facility considerable amounts of asbestos have been identified in insulation and building materials.

- Lead is present in the glovebox shielding and in some of the building materials.

1.5 CONCLUSIONS

The following decisions and conclusions were made from the reconnaissance characterization data:

1. There are some areas which are clearly identified as contamination areas which are not in B-boxes or gloveboxes. There are no accessible areas which have radiation levels above 1 millirem. Room 160 in Building 779 is the only room known to have significant amounts of fixed radioactive contamination in the room's painted surfaces. As equipment is removed from the 779 Cluster to expose the painted surfaces, a thorough sampling and analysis for fixed radiation contamination will be completed. Current planning is to remove paint from all rooms where significant quantities of radioactive material were handled.

2. Although there were hazardous chemicals in the 779 Cluster facilities, the majority of excess and hazardous chemicals were removed from the 779 Cluster facilities during the deactivation process. Because the majority of chemicals have been removed and there are no known areas which have a buildup of chemical residue, no special chemical characterization is anticipated. Should a chemical be found during the decommissioning process, the chemical will be handled in accordance with existing chemical identification and handling procedures.

3. The specific quantity and distribution of asbestos containing material (ACM) has been evaluated by means of a complete asbestos inspection of the facilities and sampling. The inspection revealed that asbestos is present in some insulation material, ceiling tiles, floor tiles, mastic and wall board taping compound. Much of the insulation material has been wrapped in place to prevent the asbestos from being disturbed. The other areas which have a potential for containing asbestos are in good condition and do not pose a hazard to workers if left undisturbed. Asbestos abatement will precede any activity which would disturb the potential ACM. The Summary Table from the asbestos report for these buildings has been included as Appendix C. The complete report is available in the project files and is entitled "Asbestos Characterization Report For The 779 Cluster Project " (RF/RMRS-97-091.UN).

4. It is assumed that the majority of painted surfaces contain lead due to the age of the facility. This assessment is based on previous sampling conducted by the Industrial Hygiene (IH) group throughout RFETS, and is documented in the Health and Safety Lead Abatement Plan files. Housekeeping will be performed to remove any dust which may contain contaminants. The amount of lead in the painted surfaces will be determined during In-Process Characterization and characterized with respect to the overall waste form. Lead paint samples will be collected as "In-Process" samples for Toxicity Characteristic Leaching Procedure analysis to support the waste characterization program.

5. Beryllium metal was removed from the 779 Cluster facilities during the deactivation process. However, because Be was machined and analyzed in some areas of the facility, the first decommissioning effort, in each area, will be to verify surface and air levels, then perform housekeeping to ensure a safe working environment. A more thorough sampling and analysis will be completed prior to work in areas previously identified as Be work areas. A preliminary Be survey was conducted in the Building 779 Cluster. The results of this survey is presented in Appendix D.

6. Laboratories and 779 Cluster support areas were evaluated for PCBs in paint and equipment. Appendix E identifies the rooms, buildings, and materials that were identified for In-process characterization. All walls in inspected rooms appear to be painted with latex paint. Based on the wide color range and the overall paint appearance, no specialty paints were used.

The floors in the inspected areas were either poured, tiled, or cement. The poured and cement flooring was, in some instances, painted with Tenneco epoxy, a non-PCB containing paint. Tenneco epoxy was also applied to the exterior of gloveboxes located in Building 779.

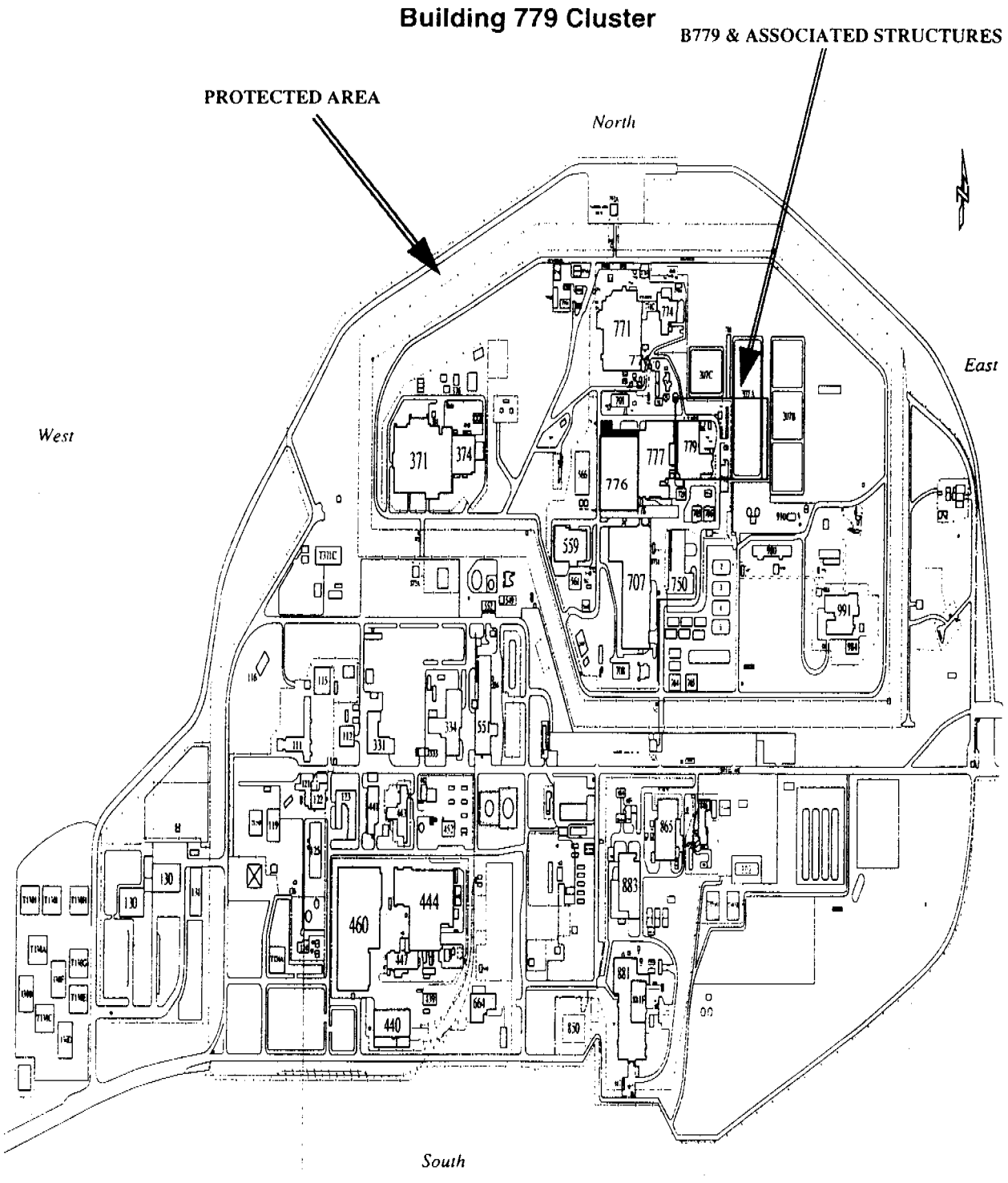
Equipment containing oil reservoirs has been evaluated for hazardous waste and PCBs, and is being managed in accordance with procedure 94-MP/IE-0017, *Management Plan for Material Contained in Idle Equipment* or TSCA requirements, as applicable.

Fluorescent lights and fluorescent light ballast will be removed and disposed in accordance with appropriate RFETS procedures. Due to the age of the buildings and guidance from the RFETS Toxic Substances Control Act specialist, the ballasts will be segregated and, as appropriate, managed as Polychlorinated Biphenyl (PCB) – containing items during the decommissioning effort. Additional PCB sampling of suspect building materials, as appropriate, will be taken as part of "In-Process" characterization for waste management purposes. Reference Appendix E for PCB evaluation results.

7. RCRA characterization will be performed throughout the life of the 779 Cluster Project. A waste determination will be made on all solid wastes including equipment, piping, ventilation ducting, gloveboxes and building structural materials, as appropriate. In-Process Characterization will be performed on these materials when the wastes are generated by either removing them from service or physically removing them in accordance with the respective work package. Resulting waste will be managed as described in the 779 Cluster Waste Management Plan.

The 779 Cluster Decommissioning project-specific Health and Safety Plan (HASP) contains information on how the above information will be implemented as the decommissioning effort is completed.

Figure 1-1


Building 779 Cluster
B779 & ASSOCIATED STRUCTURES
PROTECTED AREA
North
East
West
South
771
371
374
776
777
779
559
707
750
991
460
444
440
883
865
130

2.0 ANALYTICAL TESTING

Specific rationale for the sampling and analysis is contained in the RLCP for the 779 Cluster. Analytical and survey results are presented in Section 3.0 of this document.

2.1 WASTE MANAGEMENT

Procedures are in place to insure that characterization of generated wastes will be in accordance with the U. S. Environmental Protection Agency (EPA) and State regulations. Hazardous and radioactive contaminant data is produced, to a level consistent with regulatory and procedural requirements, for wastes that will be generated. The requirements for characterization of hazardous waste are identified in specific RFETS waste management procedures, based on requirements established primarily in 40 CFR 261 and 6 Colorado Code of Regulation (CCR) 1007-3, 261. Waste materials demonstrating hazardous or radioactive characteristics are managed in accordance with the Low-Level or Hazardous Waste Requirements Manual.

A project specific Waste Management Plan (WMP) has been generated which identifies the estimated volume of waste and how the waste will be dispositioned (i.e., recycled, low-level built or free release).

2.2 INDUSTRIAL HYGIENE

The potential for exposure to hazardous or radioactive substances will be evaluated, prior to conducting the operation, according to Occupational Safety and Health Act (OSHA) and National Institute of Occupational Safety and Health requirements. Data is acquired for contaminants associated with equipment, building materials, residuals within construction areas, or other potential sources of hazardous exposure to the workers. Preliminary screening and sampling is required in decommissioning areas for materials to which the workers may be exposed. The documentation will be included in the project files for Integrated Work Control Program (IWCP) closeout. Buildings will be decommissioned according to engineering and administrative controls, and approved decontamination methodologies. Use of Personal Protective Equipment (PPE), as implemented under appropriate plans and procedures to meet OSHA requirements, will be integral to decommissioning activities.

A Demolition Plan will be written by the subcontractor. This requirement is driven by OSHA 1926.62 for lead and by other sections of OSHA for other constituents.

3.0 RECONNAISSANCE SURVEY RESULTS

Location-specific information concerning the characterization of each area in the 779 Cluster and each room in Building 779 is presented in this section. This localized characterization includes descriptions of specific events, operations, installations, construction, equipment operation, and other process knowledge information relating to the 779 Cluster. The information collected has been obtained from several sources, including past/current records and interviews with RFETS personnel who had relevant 779 Cluster work experience or related knowledge. A complete listing of the information sources examined for this report is provided in Section 5.0.

3.1 FACILITY WORK AREA

Building 779 has been divided into six work areas for the purpose of deactivation and decommissioning. The six areas are as follows:

Area 1 - First-floor Rooms 146, 147, 149, 150, 151, 152, 153 (a & b), 154, 155, 156, 157, 158, 159, 160, 160a, 161, 163, 165, 167, and 167a

Area 2- Second-floor Rooms 215, 216, 217, 218, 219, 220, 221 (a, b, & c), 222, 222a, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 234a, 235, 273, 274, 275, and 277

Area 3- First-and second-floors Rooms 123, 124, 125, 128, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140 (a & b), 141 (a, b, & c) 171, 172, 173, 270, 271, and 272

Area 4- Rooms 121, 121a, 122, 123, and other areas of the building not expected to be radiologically contaminated

Area 5- Rooms 001, 126, 127, and 142

Area 6- Support Buildings 727, 729, 780, 780a, 782, 783, and associated cooling towers

Exposure assessments of the hazards that may be encountered during specific decommissioning activities is discussed in the 779 Cluster Project HASP. Information contained in the 779 Cluster Project HASP and this document will be incorporated into the planning process for each activity (via Activity Hazard Analysis evaluations) to ensure maximum protection of the worker.

3.2 FACILITY CHARACTERIZATION

The following table (Appendix A) is organized by decommissioning areas as described above and includes a description of the operation and process information available for each room and area, the materials that were used in the room based on historical information, the contamination considerations for each room, and the proposed confirmation analysis which will be performed prior to and during decommissioning activities. Additional characterization information will be obtained using the decommissioning characterization protocols and will be generated as an In-Process Characterization activity. The types and volumes of wastes generated during the 779 Cluster decommissioning are discussed in the 779 Cluster Project WMP.

Facility walk-downs were conducted from October 1996 through September 1997 to identify potential hazards associated with the buildings. In addition, the buildings were inspected for the presence of asbestos containing building materials by a state-certified building inspector. Information was also collected on the presence of lead-containing paints used in construction, although no samples were taken.

Appendix A is organized by decommissioning areas as described above and includes a description of the information available for each room and area, the contamination considerations for each room, and the confirmation analysis which was performed prior to decommissioning activities to further characterize the facility, and wastes generated.

The primary purpose of the reconnaissance characterization activity is to provide a baseline of hazards within the 779 Cluster. This baseline (RLCR) will aid the DOE in determining if a Decommissioning Operations Plan is required for the decommissioning effort. This characterization information may also be used:

1. Quantify and qualify the physical and chemical characteristics of radiological and hazardous material contamination and the extent of contaminant distribution

2. Quantify and qualify parameters that affect potential human exposure from existing and residual radiological or hazardous material contamination

3. Support evaluation of detailed planning of a preferred approach for decontamination, equipment removal and waste disposal

4. Support project plan considerations of dose assessments and As Low As Reasonably Achievable (ALARA) analyses to support selection of cleanup criteria and approach

Data collected during the characterization activities consists of two types:

1. Field measurements using portable instruments or test kits, and

2. Sample analyses of media using fixed laboratory equipment or systems.

There are no areas within the 779 Cluster which have significant amounts of unidentified, uncontrolled, and unmarked radioactive contamination. There are some areas which are clearly identified as contamination areas and are not in B-boxes or gloveboxes. There are no accessible areas which have radiation levels above 1 millirem. Room 160 in Building 779 is the only room known to have significant amounts of fixed radioactive contamination in the room's painted surfaces. As equipment is removed from the 779 Cluster to expose the painted surfaces a thorough sampling and analysis for fixed radiation contamination will be completed. Current planning is to remove paint from all rooms which handled significant quantities of radioactive material.

Radiological surveys will be performed in areas as identified in Appendix A. The survey requirements will be outlined in specific radiological survey instructions developed for a given area. The level of detail for specific surveys will be based on the radioactive contamination potential for the area.

Four area classifications may be used to design the 779 Cluster surveys. These classifications are defined as follows:

Class 1 Impacted (Affected) Areas: are areas that have potential contamination (based on building operating history) or known contamination (based on past or preliminary characterization survey data). This would normally include areas where radioactive materials were used and stored and where records indicate spills or other unusual occurrences could have resulted in the spread of contamination. The survey frequency will be a minimum of one fixed survey measurement and one removable survey measurement per square meter. In addition, an alpha/beta scan survey of 100% of the applicable surface areas, including fixed equipment, is required.

Class 2 Impacted (Affected) Areas: are areas that have or had a potential for radioactive contamination or known contamination, but are not expected to exceed the applicable contamination limits. The survey frequency will be a minimum of one fixed survey measurement and one removable survey measurement at intervals as determined utilizing MARSSIM statistical calculations. In addition, a scan survey for alpha and beta of 10 to 100% of the applicable surface areas, including fixed equipment, will be performed as directed by Radiological Engineering personnel.

Class 3 Impacted (Unaffected) Areas: are all areas not classified as Class 1 or Class 2 Impacted or Non-Impacted. These areas are not expected to contain residual contamination above the applicable limits, based on knowledge of building history and previous survey information. However, insufficient documentation is present to exclude the area from survey requirements. The survey frequency will be a minimum of one fixed survey measurement and one removable survey measurement per 50 square meters or 30 points, whichever is greater. In addition, an alpha/beta scan survey of 10% of the applicable surface areas, including fixed equipment, is required.

Non-Impacted Areas: are all areas not classified as Class 1, Class 2 or Class 3 Impacted. These areas are areas where there is no reasonable potential for residual contamination, based on knowledge of building history and/or previous survey information. Sufficient information is present to be assured that no residual contamination is present above the applicable contamination limits.

A complete building inspection of the 779 Cluster was conducted for ACM in accordance with Asbestos Hazard Emergency Response Act and State of Colorado Regulations by a certified building inspector. The results are summarized in Appendix C.

During the physical inspection of the 779 Cluster, various painted surfaces were observed. These paints included white on drywall, grey on floors, amber (red-brown) on beams, yellow on safety rails, and red on fire suppression systems and fire extinguisher location boards. These paints have tested positive for detectable levels of lead in other buildings in a consistent manner. Although additional paint samples have not been taken, the demolition work practices will continue with the assumption that the paints contain lead and appropriate precautions will be taken. Additional media samples of construction materials will be taken during In-Process Characterization to support decommissioning activities and waste characterization.

Appendix A lists the locations and the types of samples that were required for characterization purposes. A trained sampling team was selected to perform the sampling activities required for characterization purposes. Analysis for characterization purposes was performed using EPA

approved procedures through laboratory facilities. Data Quality Objectives are established for the analytical methods referenced and are on file at the on-site Analytical Projects Office in Building 881. Sampling and analysis activities were conducted in accordance with the RLCP and the "Decommissioning Characterization Protocols" which describe the methods of sampling and analysis for various contaminants of concern including asbestos, PCBs, and radioactive constituents.

Appendix A includes the descriptions associated with each area, information regarding the processes conducted in each room, radioactive and/or hazardous considerations (i.e., known materials associated with a specific process or area), and the confirmation analysis that were performed. Lead and asbestos surveys were conducted by a state-certified inspector and results have also been compiled in Appendix C.

Beryllium surface samples were obtained for selected rooms within the 779 Cluster. The results of these surveys are presented in Appendix D. Additional Be samples will be taken as an "In-Process" sampling activity during the decontamination and decommissioning effort.

3.3 QUALITY ASSURANCE PROGRAM

The Quality Assurance (QA) Program for characterization activities follows the same program established for management of hazardous wastes on-site and meets the minimum requirements established by "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA (SW-846, 1986, Third Edition. QA/Quality Control (QC) procedures addressing waste characterization are maintained at the site. The DQOs for characterization activities are addressed in the 779 Cluster RLCP.

3.3.1 Waste Management

The requirements for characterization of hazardous waste is specified in several RFETS waste management procedures that are based on the requirements established primarily by 40 CFR 261 and 6 CCR 1007-3, 261. If the waste materials tested demonstrate hazardous or radioactive characteristics, then they will be managed as such in accordance with the Low-Level or Hazardous Waste Requirements Manual. A more thorough discussion of the project's waste management is contained in the 779 Cluster Project WMP.

3.3.2 Health And Safety/Industrial Hygiene

All decommissioning activities are reviewed in the context of potential exposure of workers to hazards within the facility. Exposure assessments are discussed in the 779 Cluster Project HASP.

4.0 GENERAL OPERATING HISTORY

Building 779 was originally constructed in 1965 with additions added on in 1968 and 1973 for a total area of 67,710 sq. ft., of which, approximately 48,000 sq. ft. is included in the Material Access Area. The primary function of the facility was one of R&D. The facility was devoted to many phases of research with a variety of materials, which included not only Pu, but also U, Be, tantalum, and other exotic materials. Activities conducted in the building throughout its history included those concerned with Pu chemistry, physical metallurgy, product integrity and surveillance, joining, coatings, and machining. Typical research projects included the investigation of gas-metal interface reactions, thermodynamic measurements on Pu, electron-microscope investigations of metal structure, and the development of sophisticated joining techniques. In all, there were 39 processes conducted in the building throughout its history.

The east side of the building (on both the first and second floors) is not contaminated with radiological constituents. This space (approximately 19,700 sq. ft.) contains offices, machine shops, and loading dock areas. If radiological constituents are discovered, a reevaluation of the work activities will be performed and adequate protective measures will be initiated.

4.1 ASSOCIATED FACILITIES

Buildings 729 and 782 (constructed in the early 1970s) house filter plenums and contain radioactive contamination. These buildings are 2,740 and 6,200 sq. ft., respectively. Of the support buildings in the 779 Cluster, the two plenum buildings will require the most work to deactivate. Buildings 780 and 780A, which are used for miscellaneous storage, are constructed of corrugated metal and lumber. Building 783, and its associated fans, supply cooling water to Building 779.

4.2 IDENTIFIED BUILDING HAZARDS

Building 779 was used for R&D in support of nuclear weapons production. Although a wide variety of Pu activities were conducted in the building, large quantities of Pu were not processed. It is anticipated that the holdup of radionuclide material will be found during deactivation. One laboratory contains a gamma-cell experimentation device, which contains a radioactive cobalt 60 source.

Contamination is expected from Pu, Be, U, and other materials processed in Building 779. In addition, a wide variety of chemicals were used for laboratory tests. These chemicals have been removed through the deactivation process.

Machine, hydraulic and lubricating oil, and grease exist in various machines in Building 779. PCBs are also likely to be encountered in equipment and electrical devices. Due to the age of the facility, considerable amounts of asbestos are present in the insulation and building materials. Lead is also present in the glovebox shielding and in some of the building materials.

4.3 DESCRIPTION OF OPERATIONS

This section describes the R&D and support operations which were previously conducted in Building 779. Operations are separated into five areas:

1. Process Chemistry Technology
2. Physical Metallurgy
3. Machining and Gaging
4. Joining Technology
5. Hydriding Operations

Because research operations were constantly changing during facility operations, only a general description is provided.

4.3.1 Process Chemistry Technology

The chemistry laboratories in Building 779 were engaged in weapons process development, stockpile reliability testing, and methods development for recovering, separating, and purifying actinides from waste streams and residues. Some research activities and operations were performed on a continuous basis in production-scale facilities. Other activities were short-term and were performed on a laboratory scale using more highly specialized equipment.

Actinide elements, compounds, and other radioactive materials encountered in the process chemistry laboratories included the following isotopes and other associated trace isotopes or radioactive decay products:

- Am
  Am^{241}
- Cobalt
  Co^{60}
- Pu
  Pu^{238}
  Pu^{239}
  Pu^{240}
  Pu^{241}
  Pu^{242}
- Strontium (Sr)/Yttrium (Y)
  Sr^{90}/Y^{90}
- Thorium (Th)
  Th^{232}
- Tritium
  H^{3}
- U
  U^{235}
  U^{238}

Chemicals uncommon to other parts of Building 779 were used in Process Chemistry Technology operations. They included elemental iodine hydrazine, dimethylamine, ammonium hydroxide, soda lime, hydrochloric acid, alkali metals and compounds, and hydrogen.

4.3.1.1 Ion Exchange

Ion exchange resins were tested for effectiveness of purification and separation of Pu from other actinides. Purified Pu eluate was returned to production for conversion to Pu metal. Safe control of the ion exchange processes required proper sequencing of column feed adjustments, open-end columns for protection from pressure, specific instructions for eluting before the end of a work shift and never allowing resin to dry (nitrated dry resin is unstable), and safe-diameter columns and storage vessels.

4.3.1.2 Precipitation

The Pu peroxide precipitation and calcination process was simulated on a laboratory scale. The process converted Pu solutions to a Pu peroxide precipitate. The precipitate was then calcined to a Pu oxide powder, which was transferred to Building 771 for reduction to metal. The process required critically safe operating and storage vessels.

4.3.1.3 Thermodynamics

Thermodynamics studies of nuclear materials were conducted on a laboratory scale. Experiments involved measurement of chemical energy changes associated with certain chemical reactions, as well as the determination of heat capacities and enthalpies of nuclear materials, some of which were radioactive.

Solvent extractants were tested for effectiveness in the separation and removal of actinides from acid and salt wastes. Aqueous and organic wastes were transferred to Waste Operations for disposal. Solvent extraction involved contacting aqueous and organic phases in small vials and used non-friable or high-flash point solvents for safety.

4.3.1.4 Thermogravimetric Analysis

Equipment is in place which was used for characterizing solids and their interactions and reactions with solids and vapors at subatmospheric pressure and at subzero, ambient, and high temperature. These analyses used both vacuum microbalances and differential thermal analysis and thermogravimetric equipment. Specific measurements included: (1) determining surface area of powders, (2) measuring adsorption and desorption of gases from solid surfaces, (3) measuring the kinetics of solid-gas reactions, (4) measuring equilibrium vapor pressures, and (5) defining the pressure-temperature composition relationships and phase equilibria of solid-gas systems. Radioactive, nonradioactive, and air sensitive materials were studied. Sample sizes were generally less than 5 grams.

4.3.1.5 Surface Studies

Methods used to study the surface of solid samples included auger electron spectroscopy, low energy electron diffraction, electron spectroscopy for chemical analysis, and ellipsometry. Both radioactive and nonradioactive materials were examined.

4.3.1.6 Radiation

Effects of radiation on various solids, liquids, and gases were examined after exposure to gamma, beta, and alpha irradiation sources. These studies determined the radiation stability of materials used in a number of production operations at Rocky Flats. Detailed planning of experiments, use of protective equipment, and radiation shielding helped ensure the safety of these experiments.

4.3.1.7 Compatibility

Compatibility and chemical studies were performed with Pu and U samples. Equipment used in these tests included pressure volume-temperature systems, dynamic gas analyses systems, and high vacuum, gas, and acid-handling systems. The laboratory performed kinetic tests and, using gravimetric methods, tests for corrosion. These studies involved chemical reagents not normally used in other operations in the building.

Experiments were carefully planned to ensure they were conducted safely. The systems used were leak and pressure tested. The systems had burst discs, check valves, and in-line particulate filters. Experiments were conducted in gloveboxes having atmospheres with less than 3% oxygen. Adequate radiation shielding was provided.

4.3.1.8 Product Testing And Surveillance

This area included process development research, production support experimentation, and stockpile reliability evaluations. Process development was performed in response to design agency guidance related to various phases of weapon cycle use (production, stockpile, deployment, command and control, surveillance, and site-return evaluation). These processes, typically, involved coupon-size samples used for determining reactivity and reaction mechanisms. Production support experimentation was typified by testing of materials proposed for production use. Each material was tested for compatibility with war reserve metals and other production materials before it was approved. Experimentation for these determinations was performed using small samples that were stored for several weeks. Full scale pit testing was performed in response to specific design agency requests.

Product was tested under a variety of field-simulated conditions of temperature, pressure, and chemical environment. This area of work included short-term operational cycle experiments, as well as accelerated aging studies and subzero temperature shelf-life testing.

Operational-cycle-experiments were done under controlled conditions using gas-tight, vacuum and high pressure metallic systems. Product aging and shelf-life testing were accomplished in a DOE-approved nuclear materials storage and vault facility.

4.3.1.9 Evaporative Separation

A high-temperature furnace was used to develop methods for distillation of salts and volatile metals from Pu and Americium (Am) alloys and residues. Volatile metals used were mostly zinc and magnesium. This process was a tool for purifying alloys and upgrading salt residues.

4.3.1.10 Pyrochemical Processes

Pyrochemical Process Development was associated with production equipment and production process applications of the pyrochemical techniques. This group experimented with molten salt extraction, salt sparging, direct oxide reduction, and electrorefining.

Molten salt extraction was performed to remove impurities (i.e., undesirable radionuclides) from Pu. The molten salt extraction operation was performed at an elevated temperature to melt the Pu metal. Molten metal was combined with a salt mixture that contained magnesium chloride, which served to oxidize the impurities in the Pu metal. Once molten, the mixture was separated into a salt phase (which contained the impurities) and a metal phase. Upon cooling, the salt was removed and processed for reuse. The purified Pu button was returned to production.

Spent salts from molten salt extraction were melted and combined with calcium metal to reduce the Pu and Am contained in the salt to a pure metal form. A calcium/Pu/Am alloy resulted, along with the purified salt. The salt was either reused or discarded if Pu levels were low enough. The metal alloy button was further treated by vacuum melting, which drove off the more volatile nonradioactive metal components. The resulting purified Pu/Am button could then be separated by a variety of processes, including molten salt extraction as described above.

Direct oxide reduction was a one-step process for converting Pu oxide into Pu metal. PuO_2, calcium chloride, and calcium metal were placed into a crucible and melted. The molten mixture was stirred to allow the reduction reaction to take place. The molten products were then poured into mold and allowed to cool. Breakout of the cooled contents yielded a Pu metal button and a discardable salt.

Electrorefining was another method of Pu purification based on the mobility of Pu ions in the presence of an electric current. Pu was heated to a molten state in the presence of molten salt. A direct current source is applied to the molten mixture through a tantalum anode placed in the mixture. The molten metal mixture acted as the anode. Pu ions collected at the cathode and were reduced to pure Pu metal. Impurities remained in the molten salt phase. The resultant Pu metal was returned to production, and the spent salt was sent to salt sparging for reprocessing.

4.3.2 Physical Metallurgy

The Physical Metallurgy laboratories conducted research on various metals, alloys, and materials. The group also supported different research groups, design agencies, plant production, and others in metallurgical studies of materials and manufacturing techniques for components and processes. Support operations by the group included optical and electron metallography, microprobe analysis, X-ray diffraction, tensile testing, hardness testing, and dilatometry.

Physical Metallurgy personnel experimented with small samples of metals, such as Pu, U, Be, steel alloys, copper, and various ceramics and glasses. Gloveboxes were used to handle radioactive materials. Tensile testing and electron metallography facilities were housed in special laboratory rooms. Below are some of the operations conducted by the physical metallurgy group.

4.3.2.1 Optical And Electron Metallography

Analysis of materials was conducted by examining the materials' physical structure using light and electron microscopes. Gram samples, which were usually mounted in plastic holders, were prepared by cutting or sawing. Several cutting and sawing devices were used. Be and depleted U were handled in machines with hoods and air exhausts for protection against toxic dust and fumes. Plutonium samples were handled in gloveboxes. Cutting fines were collected and stored in a drum, which was sent to Building 774 for disposal.

Materials in plastic mounts were usually ground and polished in specialized metallographic equipment to yield a polished surface for examination. Grinding was performed wet and the fines were constantly flushed into the process waste drain. Usually, a chemical treatment followed to reveal the structure in detail. Specimens were then examined in appropriate microscopes. The internal structure of some materials was studied by preparing thin films of the material, and passing an electron beam through the film. Specimens were returned to the originator; waste material was disposed of in waste collection drums.

4.3.2.2 Microprobe Analysis

Samples of materials prepared using metallographical techniques, including freshly polished and clean Pu, were inserted in the microprobe analysis chamber. An electron beam scanned across the specimen and was used to obtain a chemical analysis by evaluating the spectra that were collected.

4.3.2.3 X-Ray Diffraction

The atomic crystal structure of materials was examined by the use of X-ray diffraction. Technical information was obtained by such X-ray studies. Specimens weighing up to a few grams were placed in the X-ray beams. Radioactive materials were covered with a thin plastic film for protection against contamination.

4.3.2.4 Mechanical Testing

The mechanical behavior of radioactive or fissile materials was determined by use of a testing machine enclosed in a glovebox. Nonradioactive materials were tested in open machines. Materials were evaluated by the application of tensile, compressive, and shear loading. Relatively small machined specimens were used for testing. Radioactive materials were handled according to appropriate safety procedures.

4.3.2.5 Dilatometry

Dimensional changes of a material were measured by use of a dilatometer that detected these changes as the material was heated and cooled. Machined specimens were small, and radioactive materials were tested in this system. The dilatometer was contained within a glovebox.

4.3.3 Machining And Gaging

Machining operations within the buildings were conducted in three shops, two general machine shops and a general machining laboratory located in the original 779 building and Building 779-2.

One general machine shop supported Joining Technology. The work consisted of making tooling, fixtures, and special order parts of steel, cast iron, and other common materials. Shop equipment included lathes, mills, tool grinders, a belt sander, and a power hack saw. Standard shop practices, monthly safety inspections, and trained operating personnel provided a safe working environment. Only non-nuclear material was handled (excluding Be).

The second general machine shop was a maintenance shop used in support operations. It is equipped with a lathe, mill, drill press, and tool grinders. General machining tasks employed common materials such as aluminum, brass, copper, and steel. Again, only non-nuclear materials were handled.

The general machining laboratory was used for high-precision machining of special orders, machining tests, and general machining jobs. It was equipped with a direct numerically controlled lathe, tracer lathe, straight lathe, mill, jig borer, drill press, electrodischarge machine, band saw, surface grinder, monoset grinder, and tool grinders. Waste generated in the machining of common materials was collected in drums in each shop and disposed of according to written procedures.

4.3.4 Joining Technology

Joining Technology activities were conducted in the original 779 building and Building 779-2. There was only one Joining area for the handling of nuclear material, which was in Building 779-2. Joining activities included electron-beam welding, gas-tungsten-arc welding, pressure gas-metal-arc welding, gas welding, brazing, metallography, machining, dimensional inspection, and electronics development.

The Coatings facility in Building 779, contains three hot-hollow cathode systems and associated hardware. The function of this facility was to define the required parameters associated with the deposition of various materials onto specified substrate geometries. The material most often deposited was silver. However, other materials, such as gold, silicon dioxide, and silicon monoxide, were also deposited.

Common substrate materials used were Vascomax, steel, stainless steel, Be, and U-238, in a variety of forms. At no time were the substrate materials mechanically worked on, as in sectioning or grinding, in this facility. Coatings were deposited onto the substrates in a closed chamber and under partial vacuum.

Each of the hot-hollow cathodes was contained in a separate high-vacuum chamber. For any one system, vacuum pumps, gages, and necessary electronics were housed in a cabinet that also doubled as a table surface for the vacuum chamber.

Presently, there are two power supplies being shared among the hot-hollow cathodes. Both power supplies are enclosed in cabinets with safety interlocks on the panels and doors. Although on-off switches are mounted on the cabinets, breaker switches on the wall were used as an additional precaution in initiating and shutting off current to the power supply.

Hazardous materials used in the Coatings facility were methanol, nitric acid, and sodium hydroxide. These materials were present in small quantities.

4.3.5 Hydriding Operations

Hydride Operations received parts containing recoverable amounts of Pu, and through the process of hydriding, removed Pu from the part in the form of Pu hydride. This hydride was then dehydrided and converted to Pu metal or oxidized to Pu oxide.

In the hydriding process, the procedure varied depending upon the material being processed; however, the general procedure is outlined below. The part was placed in the hydriding vessel; which was evacuated and backfilled with pure hydrogen. In the hydriding reaction, hydrogen gas in the vessel was consumed in the reaction; therefore, hydrogen was continuously added by an automatic controller to maintain proper operation pressures.

Upon completion of the reaction, the hydride was placed in the oxidation reactor. Oxidation occurred by passing air through the oxidation reactor. When oxidation was complete, the material was burned in the presence of pure oxygen, to ensure that all the hydride was converted to oxide.

Since the above reactions involved high temperatures, pyrophoric materials, and potentially explosive gases, several safety systems were designed to prevent any adverse consequences. Both reaction vessels were contained within a glovebox that was inerted with argon. This glovebox was monitored for high oxygen and hydrogen concentrations. Additionally, the electrical design of the system made it impossible to perform the hydriding and oxidizing operations simultaneously. Finally, if the pressure of the glovebox exceeded a set pressure, a pressure-relief valve would open, allowing pressurized gases to be exhausted through the hydrogen burning glovebox.

5.0 INFORMATION SOURCES

The preparation of this report involved the retrieval of information from various sources, and review of several documentation files pertaining to the 779 Cluster and past operations therein. The following sections list the files that have been reviewed in the course of this reconnaissance characterization.

This investigation effort also included the collection of first-hand process knowledge through interviews with RFETS employees having Building 779 experience. A listing of personnel who contributed is available in the project files.

5.1 FACILITY RECORDS

The following 779 Cluster records are available for retrieval from the 779 Cluster Decommissioning Project Document Files:

- Building 779 Routine Radiological Monitoring Contamination Survey Reports, dated January 1990 through present.
- Building 779 Work Summary Plan BDP-779-003, Revision 0, Part A, September 9,1996.
- RFETS Glovebox Data List, October 1, 1996.
- Building 779 Waste Stream and Residue Identification and Characterization.

5.2 NUCLEAR SAFETY AND COMPLIANCE RECORDS

- Holdup Measurements Results for Building 779, Safe Sites of Colorado Interoffice Correspondence, October 15,1997.
- Summary of Building 779 Pu Holdup Breakdown by System, DKS-001-93, EG&G Rocky Flats, Inc. Interoffice Correspondence, March 12,1993.
- Safety Analysis Report for Building 779, June 1987.

5.3 FACILITY ENGINEERING RECORDS

- Basic Information for the Decommissioning of Building 779.
- Facility Engineering Drawings of the 779 Cluster.
- Facility photographs from walk-downs conducted November 1996.

5.4 SUBJECT MATTER EXPERT INFORMATION

- RFETS staff members previously/currently assigned to/or associated with the 779 Cluster:

Process information on operations within the 779 Cluster was obtained from various individuals associated with the project. A complete listing of persons contacted during the building characterization is available in the project files.

6.0 REFERENCES

Building 779 Radiological Monitoring Contamination Survey Reports, January 1990.

Building 779 Work Summary Plan BDP-779-003, Revision 0, Part A, September 9,1996.

RFETS Glovebox Data List, dated October 1, 1996.

Holdup Measurements Results for Building 779, Safe Sites of Colorado Interoffice Correspondence, September 27,1996.

Summary of Building 779 Pu Holdup Breakdown by System, DKS-001-93, EG&G Rocky Flats, Inc. Interoffice Correspondence, March 12,1993.

Safety Analysis Report for Building 779, June 1987.

Basic Information for the Decommissioning of Building 779.

Facilities Engineering Drawings of the 779 Cluster.

Facilities photographs from walk-downs conducted November 1996.

Appendix A

Building 779 Reconnaissance Characterization Table

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
001	Basement Sumps	Radiological Contaminants Chromium	Radiological Survey (Class 1) ACBM
113	Assembly Technology Machine Shop	Machine turnings WD-40 Methyl alcohol Light metal	Radiological Survey (Class 1) ACBM
120	Old Change Room	N/A	Radiological Survey (Class 1) ACBM
121	Maintenance Shop	Vacuum pump oil, non-RCRA circuit board w/silver and lead, RCRA circuit board w/silver and lead, and lead acid batteries	Radiological Survey (Class 3) ACBM
123	This is the decontamination room and likely has contamination in the process drains leading from it.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
124	This is an Radiation Control Technician (RCT) office.	N/A	Radiological Survey (Class 1) ACBM
125	This room is a RCT office. Radiation sources are stored in the northeast corner of the room.	N/A	Radiological Survey (Class 1) ACBM
126	This is a utility area and should not contain appreciable amounts of Pu other than what might be in process piping. There are gloveboxes for house vacuum and batteries for uninterrupted emergency power supply. In Room 126, there is a helium tank system and scrubber on the west wall for a helium inert glovebox in Room 133. It was abandoned in the late 1970s or early 1980s. The system never went hot. There is an abandoned water still for producing distilled water from sanitary water. The cooling water from this system went into T-5. The still should be uncontaminated. The sub-basement (Room 001) below has all process piping for the T-5 tank (i.e., holding tank for all B779 process drains including all lab sinks). This was a RCRA tank, but it has been flushed, triple rinsed, and now receives only sanitary and eyewash liquids. It is closed as a RCRA site. This tank can also receive low-level solutions, as needed. The liquid in the tank now is water from chillers, condensate water, and water from eye wash and safety showers.	Radiological Contaminants Asbestos Chromium	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
126 (Cont)	The room above the T-5 tank houses pumps and two cooling water system tanks. There are two other pits in addition to the one containing the T-5 tank that are accessed from the pump room. These pits are labeled as contaminated. There are asbestos-lined pipes (condensate steam lines) overhead in this pump room. There are two old concrete pump bases from which pumps have been removed and never replaced. These have been painted over. It is possible that there is contamination underneath the paint.	Radiological Contaminants Asbestos Chromium	Radiological Survey (Class 1) ACBM
127	This is a utility room containing chillers and part of the building's original ventilation system. The filter plenum is contaminated and there is asbestos in the room. The chillers are considered uncontaminated.	RAD Contaminants Asbestos	Radiological Survey (Class 1) ACBM
128	This room is used for repair of radiation instruments. Radiation sources are stored in this room.	N/A	Radiological Survey (Class 1) ACBM
130	Janitor Closet	N/A	Radiological Survey (Class 1) ACBM
131	This was an aqueous laboratory supporting pyrochemical technology.	Pu, Am, tantalum, oils, solvents, calcium, calcium chloride, magnesium, gallium, zinc, tin, aluminum, dicesium hexachloro-plutonate, and vacuum pump oil	Radiological Survey (Class 1) ACBM
132	Source Check Lab	N/A	Radiological Survey (Class 1) ACBM
133	Research & Development Plutonium Pyrochemistry lab and Residue Storage	Radiological Contaminants Oxide reduction	Radiological Survey (Class 1) ACBM
134	There are three flammable chemical storage cabinets in this room.	Flammables	Radiological Survey (Class 1) ACBM
135	Supply Storage	N/A	Radiological Survey (Class 1) ACBM
136	Chemical Technician Office	N/A	Radiological Survey (Class 1) ACBM
137	Peroxide Precipitation Pu Oxide Dissolution Residue Recovery Extraction	Oxide residue, Pu Nitrate, spent resin $H_{28}0_4$, Pu Oxide, leached metal, leached equipment	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
138	Storage	N/A	Radiological Survey (Class 1) ACBM
139	Ferrite Actinide Removal	Ferrite material, acid wash, treated material	Radiological Survey (Class 1) ACBM
140	Metal Preparation Laboratory	Depleted U, Be	Radiological Survey (Class 1) ACBM
140A	Scanning Electron Support Room	Radiological Contaminants	Radiological Survey (Class 1) ACBM
140B	Scanning Electron Microscope (SEM)	Radiological Contaminants	Radiological Survey (Class 1) ACBM
141	ESCA	Radiological Contaminants	Radiological Survey (Class 1) ACBM
141A	Metallurgy Laboratory, Salt Crete Analysis	Radiological Contaminants	Radiological Survey (Class 1) ACBM
141B	This room has a scanning electron microscope. This system is uncontaminated.	Depleted U, Be, titanium, diamond paste, inorganic and organics acids, methylene chloride, acetone, methyl ethyl ketone, alcohols, oils, solvents, freon, and isopropanol	Radiological Survey (Class 1) ACBM
141C	This room contains an uncontaminated metallograph and an uncontaminated optical reduction equipment. This equipment was used to photograph samples.	Depleted U, Be, titanium, diamond paste, inorganic and organics acids, methylene chloride, acetone, methyl ethyl ketone, alcohols, oils, solvents, freon, and isopropanol	Radiological Survey (Class 1) ACBM
142	This is a utility room containing part of the building's original ventilation system. This room was used as a RCRA storage unit for waste oil.	Oils	Radiological Survey (Class 1) ACBM
143	Airlock to Annex	N/A	Radiological Survey (Class 1) ACBM
146	Office Area	N/A	Radiological Survey (Class 1) ACBM
147	This room was used for drum storage for drum storage of radiological waste. It also supported Room 150 with nuclear joining.	Tungsten welding (Thorium)	Radiological Survey (Class 1) ACBM, Be<
149	Hallway	N/A	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
150	Room 150 was used for nuclear joining of metal weapon components and for super critical $C0_2$ cleaning. Cleaning and rinsing of the components was performed prior to the welding operation. The process involved tungsten arc welders, electron beam welders, and torch brazing.	Hydrochloric, nitric, hydrofluoric, phosphoric, oxalic, sulfuric acids, acetone, ethanol, copper sulfate, oils, alcohol, Pu, U, and Be Tungsten welding (Thorium)	Radiological Survey (Class 1) ACBM
151	Office	N/A	Radiological Survey (Class 1) ACBM
152	Room 152 was used as an experimental casting lab to test metal compatibilities with graphite mold substrates. Pu and non-nuclear metals were heated until molten and poured into graphite molds. The molds were then examined and analyzed. There is a vault on the north end of the room and it has not been used for material storage for many years. A power generator located south of Glovebox 208. Because of its age, it is thought to contain PCBs. There is radiological contamination in the northwest corner of the room.	Pu, U, graphite, carbon, calcium fluoride, tantalum, and freon Metallurgy	Radiological Survey (Class 1) ACBM
153	This room is used for radiological waste drum storage and contains a trash compactor.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
153A	This room has a compactor for hot waste, a lead drum shield, two bottles, and three abandoned pumps. The room appears to have been used for drum storage at one time.	Radiological Contaminants	Radiological Survey (Class 1)
153B	This room has a downdraft table used to repackage waste. The room is posted as respiratory protection required.	Radiological Contaminants	Radiological Survey (Class 1)
154	This room was used for hydrating and dehydrating Pu from substrates. Hydride could still be present in the glovebox system. Gloveboxes 1363 and 1364 are where hydrating/dehydrating was accomplished. Hydride acid boil down.	Pu, sulfuric acid, hydrochloric acid, nitric acid, Tantulum, and other metals Pu Hydriding (Pu buttons fabricated)	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
155	This room was a Pu sample-mounting laboratory supporting auger spectroscopy. It had etching, polishing, a furnace, and B-boxes to pull samples out of line. Hood 155 NE - This hood is used as a 90-day accumulation area (7792269). It has contained numerous chemicals. There is possible transite (asbestos) lining the hood. The hood is labeled "NO FISSILE MATERIAL ALLOWED."	Pu, organic solutions, orthophoric, and oxalic acids. Metallurgy photographs Am and Pu	Radiological Survey (Class 1) ACBM
156	This room is the calorimeter room. There are two large gas cylinders and two contaminated portable air handlers.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
157	Tensile Testing Laboratory Glovebox 222 - This glovebox was never placed in service. It contains a tensile testing machine. Glovebox 223 - This box is non-leadlined and houses a hot tensile testing machine. There is a heat detection unit (old stacked-style storage rack). There is a supply line on the east end. Glovebox 224 - This glovebox was used to prepare samples and is contaminated. Glovebox 225 - This glovebox was never placed in service and has no gloves. Glovebox 226 - This glovebox is clean except for one gallon can and a few tools. The airlock ledge inside the box has dust and items. There are two filter housings located external to and above the glovebox.	Pu, Pu contaminated metals, isopropanol Metallurgy (Tensile Testing)	Radiological Survey (Class 1) ACBM
159	This is a permitted storage area for RCRA waste (Unit 779-90.42). There are several drums stored here containing mixed residues.	Residues Am and Pu (Pyrochemical)	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
160	This room was retrofitted in the early 1980s as a pyrochemical development facility. Operations that took place in this room included DOR, ER, MSE, Salt Scrub, and other high temperature studies with Pu and Am. In 1985 there was a major stationary furnace breach in Glovebox 865 which contaminated the entire room with Pu and Am. Smears taken immediately after from around the room measured infinity. It took an entire year to completely decontaminate the room. Walls, floors, ceiling, and pipes were painted after decontamination to fix any remaining contamination. There were reports of contamination in the ventilation system servicing the room. This contamination may have migrated to adjacent rooms.	Calcium Oxide, Magnesium Oxide, Magnesium Chloride, Sodium Chloride, Calcium Chloride, Am, and Pu (Pyrochemical) Oxide Reduction Molten Extraction Salt Scrub Electrorefining	Radiological Survey (Class 1) ACBM
160A	Room 160A was a vault which contained Special Nuclear Material (SNM). SNM was removed from this vault in 1996.	Radiological Contamination Am and Pu	Radiological Survey (Class 1)
161	Janitor Closet	N/A	Radiological Survey (Class 1) ACBM
162	Machine Shop	WD-40 Methyl alcohol Machine parts Machine turnings	Radiological Survey (Class 1) ACBM
163	This room is currently being used for empty drum storage.	N/A	Radiological Survey (Class 1) ACBM
163A	Office	N/A	Radiological Survey (Class 1)
164	Hallway (Airlock)	N/A	Radiological Survey (Class 1)
165	Double Doors	N/A	Radiological Survey (Class 1)
166	Airlock	N/A	Radiological Survey (Class 3)
167	Women's Locker Room	N/A	Radiological Survey (Class 1)
167A	Women's Shower	N/A	Radiological Survey (Class 1) ACBM
171 & 172	These two rooms are active SNM storage vaults. A chainveyor vault is located in Rooms 172 and 171 and has Benelex-shielded cubicles. It is not known of any instances of prior contamination; however, it is assumed unlikely.	N/A	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
173	Utility Area, Mechanical Room	N/A	Radiological Survey (Class 3) ACBM
202	Office	N/A	Radiological Survey (Class 3) ACBM
203	Office	N/A	Radiological Survey (Class 3) ACBM
204A	Office	N/A	Radiological Survey (Class 3) ACBM
204B	Office	N/A	Radiological Survey (Class 3) ACBM
205	Office	N/A	Radiological Survey (Class 3) ACBM
207A	Office	N/A	Radiological Survey (Class 3) ACBM
209	Office	N/A	Radiological Survey (Class 3) ACBM
212	Office	N/A	Radiological Survey (Class 3) ACBM
212A	Office	N/A	Radiological Survey (Class 3) ACBM
214	Office	N/A	Radiological Survey (Class 3) ACBM
215	Hallway (Airlock)	N/A	Radiological Survey (Class 1) ACBM
216	Hallway	N/A	Radiological Survey (Class 1) ACBM
217	Room 217 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies. Equipment - This room contains a contaminated auger and surface analysis ESCA. This was attached to a relatively new (late 1980s) stainless steel, non-lead lined glovebox (Glovebox 330-371).	Pu, U, trichloroethane, freon, ethanol, and methanol	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
218	Room 218 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies.	Pu, U, oils, solvents, inks, trichloroethane, methanol, freon TF, and ethanol	Radiological Survey (Class 1) ACBM
219	Restroom	N/A	Radiological Survey (Class 1) ACBM
220	Metallurgy Laboratory Polymer Preparation Plutonium reaction studies	Pu, U, oils, solvents, inks, trichloroethane, methanol, freon TF, and ethanol	Radiological Survey (Class 1) ACBM
221	This room stored several lecture bottles of gases and a large gas cylinder at one time.	N/A	Radiological Survey (Class 1)
221A, 274, 275, 277	These rooms have miscellaneous furniture and equipment.	N/A	Radiological Survey (Class 1) ACBM
221B	There is a drum liner stored here with fixed contamination. There is also laboratory jack which has fixed contamination. There is an uncontaminated vacuum system also present.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
221C	Equipment Storage	N/A	Radiological Survey (Class 1) ACBM
222	Room 222 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies.	Pu, U, oils, solvents, inks, trichloroethane, methanol, freon TF, and ethanol.	Radiological Survey (Class 1) ACBM
222A	Storage Room	N/A	Radiological Survey (Class 1)
223	Room 223 was a coatings laboratory which coated U, Be, stainless steel, and aluminum parts with a thin layer of metal. The basic process equipment used consisted of a vacuum chamber, arc welder, vacuum pump, and associated water cooling equipment. Hood 223-1 was used for beryllium coatings work. The floor in front of the hood is contaminated and there is probably contamination in the exhaust line from the hood. The hood is dirty inside and contains cans and beakers. There is fixed contamination on the sink top next to the hood.	U, Be, aluminum, stainless steel, gold, platinum, palladium, vanadium, tantalum, yttrium, rhodium, nitric acid, and ethyl alcohol	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
223 (Cont)	In the northwest corner there is a heater attached to a vent. Lead tape covers the holes in the south side of the heater cabinet. There is fixed contamination on the front of the filters leading into the cabinet. In the south center of the room is a vacuum coating furnace. The inside of the furnace is open to the room through an open side port. The furnace exhausts directly into the room so it is probably not contaminated inside. There is contamination in the lab on the north wall with large vacuum systems on the east wall. It is unclear if these systems are contaminated.		
224	Decontamination Room	Radiological Contaminants	Radiological Survey (Class 1) ACBM
225	Room 225 was a coatings laboratory which coated U, Be, stainless steel, and aluminum parts with a thin layer of metal. The basic process equipment consisted of a vacuum chamber, arc welder, vacuum pump, and associated water cooling equipment. There is contamination on the northeast cabinet. There is a large vacuum. The room was used for sample preparation for X-ray analyses, Pu metallurgy, and tensile testing.	U, Be, aluminum, stainless steel, gold, platinum, palladium, vanadium, tantalum, yttrium, rhodium, and nitric acid.	Radiological Survey (Class 1) ACBM
226	Stairway	Radiological Contaminants	Radiological Survey (Class 1)
228	This room was used for sample preparation for X-ray analysis, Pu metallurgy, and tensile testing. Saltcrete Sample Analysis	Pu, U, oils, organic solvents, isopropanol, varsol, diamond paste, and freon TF. Saltcrete, Isocut cutting fluid, CDTA.	Radiological Survey (Class 1) ACBM
229	Office	N/A	Radiological Survey (Class 1) ACBM
230	Office	N/A	Radiological Survey (Class 1) ACBM
231	Office	N/A	Radiological Survey (Class 1) ACBM
232	Office	N/A	Radiological Survey (Class 1) ACBM
233	Metallurgy	Metallurgy, Be, U	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
234	Room 234 was part of the Pu physical metallurgy research and development group which prepared, analyzed, and collected various metallurgical samples.	Pu, oils, organic solvents, isopropanol, nitric acid, hydrofluoric acid, carbon tetrachloride, diamond paste, and freon TF.	Radiological Survey (Class 1) ACBM
234A	Room 234 was part of the Pu Physical Metallurgy research and development group which prepared and analyzed various metallurgical samples. The X-ray unit has been removed from room. This room contains four empty drums and one empty overpack that was for a project that is no longer funded. Yellow paint was painted on the floor to cover contamination.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
234B	This room was used as a dark room. There is no contamination.	Samples handled outside of gloveboxes.	Radiological Survey (Class 1) ACBM
235	This room has a contaminated transmission electron microscope.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
236	Airlock and Bridge to B777	N/A	Radiological Survey (Class 1)
237	Hall to Annex	N/A	Radiological Survey (Class 1) ACBM
270	Room 270 was part of Product Physical Chemistry which performed research and development studies for production support, product material surveillance, material research, and material compatibility studies. In the SE corner is a uncontaminated ESCA used for surface analysis. Glovebox 2115 is uncontaminated. Gloveboxes 972 and 973 are contaminated and were used for Pu and hydrogen studies. In the northwest corner were two X-ray units which were removed, placed into crates, and now are being stored in Room 157 (these were partially contaminated). There is a satellite storage area (Room #7792238) for polymer development. B-box 270-N is empty, but is contaminated; however, contamination is U-235. Glovebox 3072 is contaminated and has some tools remaining. This glovebox also has U-235 contamination.	Pu, U, oils solvents, inks, trichloroethane, methanol, freon TF, and ethanol.	Radiological Survey (Class 1) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
271	Room 271 has low-level mixed waste storage cabinets for treatability studies where samples were being stored by the Polymer Development Team. These are also being used for storage of archived low-level mixed waste samples.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
272	This was a testing laboratory. The center Glovebox 6620 is uncontaminated. Glovebox 6621 is Pu contaminated. Class C explosives were stored in the file cabinet.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
273, 274, 275, & 277	Office Areas	N/A	Radiological Survey (Class 1) ACBM
273	This room has fixed contamination on a box of electrical connectors.	Radiological Contaminants	Radiological Survey (Class 1) ACBM
274	Equipment Storage	N/A	Radiological Survey (Class 1) ACBM
275	Equipment Storage	N/A	Radiological Survey (Class 1) ACBM
277	Equipment Storage	N/A	Radiological Survey (Class 1) ACBM
Misc. Office/ Admin. Areas	This area of the building consists of the offices and work areas on the east side of the building that are not contained within the MAA and are considered uncontaminated. There are cold machine shops (Rooms 113, 121, & 162), showers and locker rooms (Rooms 103 & 167), an emergency generator (Room 117), a control room for building operations (Room 122), and various offices on both the first and second floor. It is anticipated that there will be minimal hazards associated with this area of the building.	N/A	Radiological Survey (Class 3) ACBM
B727	Building 727 houses a 500-kilowatt generator which provides emergency power to Building 782. The building is approximately 380 ft^2 and is constructed of concrete block and reinforced concrete. There is a fire protection system with antifreeze solution and an electric space heater also in the building.	RAD Contaminants Asbestos	Radiological Survey (Class 3) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
B729	This plenum building is approximate 3,000 ft^2 and is a one-story concrete block building with a small penthouse on the roof. This building is located south of Building 779 and provides zone one and room air ventilation to the storage vaults and the rooms directly above the storage vaults on the south side of Building 779. Buildings 779 and 729 are connected by an overhead tunnel containing exhaust ductwork.	RAD Contaminants Asbestos	Radiological Survey (Class 1) ACBM
B729 con't	Building 729 contain two filter banks, a four stage and a two stage, glovebox and room air respectively. There is a control room and a 150 kilowatt emergency generator. There are two pits located in the building to collect fire sprinkler waste water. The fire protection system for the building consists of wet-pipe sprinkler system with heat detectors and manual and automatic sprays in the plenum.	RAD Contaminants Asbestos	Radiological Survey (Class 1) ACBM
B780	Building 780 is a corrugated metal shed attached to the northeast corner of Building 779. It has been used to store paint, solvents, miscellaneous equipment, and other material.	Paints And Solvents	Radiological Survey (Class 3) ACBM
B780A	Building 780A is another storage facility located east of Building 779 which is constructed of corrugated steel. There are no utilities or fire protection associated with this facility.	N/A	Radiological Survey (Class 3) ACBM
B782	This plenum building is approximate 6,200 ft^2 and is a one-story precast, reinforced concrete building. It is located east of Building 779 and provides Zone 1 and room air ventilation to the rest of Building 779. Buildings 779 and 782 are connected by an underground tunnel containing exhaust ductwork. Building 782 contains three exhaust plenums for Buildings 779 and 782 and a supply air plenum for Building 782. There is a fire water collection tank and a sump pit on the west side of the building. The fire protection system for the building consists of wet-pipe sprinkler system with heat detectors and manual and automatic sprays in the plenum.	Asbestos	Radiological Survey (Class 1) ACBM
B783 & Cooling Towers	Building 783 provides cooling water to Building 779. It is constructed of aluminum, steel, and reinforced	Asbestos	Radiological Survey (Class 3) ACBM

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Room No.	Process Information	Radioactive And/Or Hazardous Substances Known To Have Been In Area	Results, [1,2]
	There is no fire protection system associated with this facility. The cooling towers themselves are constructed of metal and will require minimal deactivation effort.		

1. Beryllium data contained in Appendix D.
2. PCB evaluation information contained in Appendix E.

Appendix B

Building 779 Holdup Results

BUILDING 779 HOLDUP RESULTS

Bldg.	Room Number	Est. Cat.	Glovebox Number	Comments	Grams	(+/-2S)	Upper Bound (Grams)
779	133	C	954	furnace	104	79	183
779	154	C	1363	Inc. furnaces	464	300	764
779	154	C	1364	Inc. furnaces	572	330	902
779	154	C	1365		106	66	172
779	154	C	7248		129	66	195
779	160	C	862/3 Equip.	2 closed furnaces	255	82	337
779	160	C	865	2 closed furnaces	203	141	344
		Total Category C Plutonium Holdup (grams) =			1833		
779	126	D	126		LLD	(0,9)	9
779	127	D	Plenum 404		LLD	(0,37)	37
779	131	D	961	calciner	54	32	86
779	131	D	131C	A-Box Aqueous	LLD	(0,15)	15
779	131	D	9511		LLD	(0,18)	18
779	131	D	131A	A-Box Aqueous	LLD	(0,10)	10
779	131	D	131B	A-Box Aqueous	LLD	(0,12)	12
779	131	D	131D	A-Box Aqueous	LLD	(0,10)	10
779	131	D	131E	A-Box Aqueous	LLD	(0,9)	9
779	133	D	953	Never went hot	LLD	(0,9)	9
779	133	D	955	furnace	21	13	34
779	133	D	956	furnace	31	15	46
779	133	D	957		29	15	44
779	133	D	958		LLD	(0,17)	17
779	133	D	959	furnace	50	13	63
779	133	D	954	equipment, Pu	4	3	7
779	133	D	955	equipment	34	17	51
779	133	D	956	equipment	24	10	34
779	133	D	957	equipment	12	7	19
779	133	D	959	equipment	36	13	49
779	137	D	106-6	filter	56	28	84
779	137	D	106-2		17	9	26
779	137	D	106-1	Aqueous	22	11	33
779	137	D	106-5		8	4	12
779	137	D	1063		17	9	26
779	137	D	106-B		LLD	(0,14)	14
779	137	D	106-1-hood		LLD	(0,9)	9
779	137	D	106-2-hood		LLD	(0,6)	6
779	137	D	106-4		9	4	13
779	139	D	139-1	hood	LLD	(0,10)	10
779	139	D	139-2	hood	LLD	(0,8)	8
779	139	D	139-3	glovebox	LLD	(0,6)	6
779	139	D	139-4	glovebox	LLD	(0,8)	8
779	139	D	139-5	hood	LLD	(0,8)	8

BUILDING 779 HOLDUP RESULTS

779	142	D	PL405	return air Pl	LLD	(0,124)	124
779	150	D	box		LLD	(0,6)	6
779	150	D	N Hood		LLD	(0,12)	12
779	150	D	S Hood		LLD	(0,15)	15
779	150	D	W Hood		6	3	9
779	152	D	208		25	12	37
779	152	D	211		67	32	99
779	154	D	S Purifier		5	4	9
779	154	D	S Dif. Pump		9	5	14
779	154	D	C Dif. Pump		30	15	45
779	154	D	N Filter		LLD	(0,1)	1
779	154	D	Filter above S. airlock		LLD	(0,1)	1
779	154	D	Filter Trap		1	1	2
779	154	D	Filter above N. airlock		29	15	44
779	154	D	S end pump		LLD	(0,2)	2
779	154	D	N Purifier		10	8	18
779	154	D	2025		LLD	(0,15)	15
779	154	D	4933		40	44	84
779	154	D	Filter below GP283		66	33	99
779	155	D	155H		LLD	(0,10)	10
779	155	D	218		15	8	23
779	155	D	219		7	3	10
779	155	D	220		LLD	(0,8)	8
779	155	D	221H		LLD	(0,7)	7
779	155	D	222		42	21	63
779	155	D	223		LLD	(0,6)	6
779	155	D	224		LLD	(0,6)	6
779	155	D	225H		LLD	(0,7)	7
779	157	D	223		LLD	(0,22)	22
779	157	D	224		LLD	(0,15)	15
779	157	D	226		LLD	(0,11)	11
779	160	D	857	furnace	79	4	128
779	160	D	857	filter housing	31	6	37
779	160	D	858	salt drying	LLD	(0,10)	10
779	160	D	860	SNM storage	LLD	(0,13)	13
779	160	D	859	button breakout	55	43	98
779	160	D	862/863	continuation of 86	67	64	131
779	217	D	330-371	auger	4	10	14
779	217	D	963	misc. furnaces	8	6	14
779	217	D	964	storage/vac pumps	17	15	32
779	217	D	Hood E	vault in NW corner	LLD	(0,10)	10
779	218	D	218S	cemenatation	LLD	(0,10)	10
779	218	D	970	oxidation and storage	11	20	31
779	218	D	971	reaction vessal	25	13	38

BUILDING 779 HOLDUP RESULTS

779	220	D	463	muffle furnace	60	30	90
779	220	D	220SE	storage	LLD	(0,11)	11
779	220	D	220C	gas experiments	LLD	(0,17)	17
779	220	D	220S	muffle furnace	LLD	(0,19)	19
779	220	D	462	furnace and hot pt	70	29	99
779	220	D	974	gas reaction	82	54	136
779	222	D	17		LLD	(0,10)	10
779	222	D	105	muffle furnace	35	17	52
779	222	D	106	B box	LLD	(0,9)	9
779	222	D	222NC	Hood/U	LLD	(0,12)	12
779	222	D	230	Blanked	LLD	(0,16)	16
779	222	D	330-371	Sol Calor.	LLD	(0,9)	9
779	222	D	555	Hood	LLD	(0,12)	12
779	222	D	460	gas reactions	LLD	(0,12)	12
779	222	D	976	vacuum furnace	17	7	24
779	222	D	980	nitrogen	LLD	(0,14)	14
779	222	D	981	B box	LLD	(0,7)	7
779	222	D	982	muffle furnace	LLD	(0,7)	7
779	222	D	983	cold	LLD	(0,11)	11
779	222	D	985		LLD	(0,19)	19
779	222	D	989	2 tube furnaces	14	10	24
779	222	D	991	SNM storage	LLD	(0,21)	21
779	222	D	992	tumbler/press	21	24	45
779	222	D	975	compat. studies	62	13	75
779	223	D	223-1	hood	LLD	(0,11)	11
779	228	D	45		LLD	(0,27)	27
779	228	D	468	sputtering coate	LLD	(0,19)	19
779	228	D	191	B box	LLD	(0,10)	10
779	228	D	192		16	7	23
779	228	D	198	vac furnace	LLD	(0,9)	9
779	228	D	200	tube furnace	LLD	(0,14)	14
779	228	D	201	microbalance	LLD	(0,8)	8
779	228	D	202	temp bath	11	10	21
779	228	D	202H	hood	LLD	(0,21)	21
779	228	D	203	polishing/vac system	31	24	55
779	228	D	468	sputtering coate	11	5	16
779	228	D	199	bottle of graphite	200	195	395
779	228	D	199	Pu polishing	154	58	212
779	234	D	205	sample prep	42	60	102
779	234	D	205A	ultrasonic	21	17	38
779	234	D	205B		16	16	32
779	234	D	205C		40	14	54
779	234	D	205D		LLD	(0,7)	7
779	270	D	972		9	5	14
779	270	D	973		LLD	(0,6)	6

BUILDING 779 HOLDUP RESULTS

779	270	D	3072	has B box inc.	LLD	(0,16)	16
779	270	D	2115		LLD	(0,6)	6
779	272	D	6620	boost testing	LLD	(0,7)	7
779	all	D	duct	G9 exhaust system	490	224	714
				Total Grams (d) Plutonium Holdup =	2280	2-sigma upper bound	4610
				Total Grams(c)+(d) Plutonium Holdup =	4113	2-sigma upper bound	7507
				^{241}Americium Holdup			
779	133	D	955	equipment, Am	3	1	4
779	133	D	956	equipment, Am	2	1	3
779	133	D	957	equipment, Am	1	1	2
779	133	D	959	equipment, Am	1	1	2
779	133	D	all gbs	Am	62	25	87
				Total Grams ^{241}Americium Holdup =	69	2-sigma upper bound	94
				Plutonium Holdup Measurements associated with but not in Building 779			
782	PL401	D		Glovebox exhaust	13	17	30
782	PL402	D		Glovebox exhaust	27	58	85
729	P1408	D	PLENUM		LLD	(0,146)	146
728	P1409	D	PLENUM		LLD	(0,71)	71
729	D409	D	DEMISTER		LLD	(0,23)	23

*LLD (Lower Unit of Detection) = 0 grams

Appendix C

779 Cluster ACBM Summary Table

779 Cluster ACBM Summary Table

Building	Material	Location (Room #)	Amount
779A	Pipe Insulation > 4" Diameter	142	1132 ft^2 (722 l.f.)
	Pipe Insulation < 4" Diameter	142, 149, 150, 152, 153, 154, 155, 156, 157, 159, 160, 161, 162, Covered Dock.	3,228 l.f.
	Duct Insulation	142	1079 ft^2
	Tank Insulation	142	63 ft^2
	Flue Insulation	142	130 ft^2
	Pump Ins.	142	89 ft^2
	Brake shoes	144 Elevator	4 each
	Cement Wallboard	150, 155 Chemical Hoods; Covered Dock	1020 ft^2
	Chalkboard	158	1 @ 24 ft^2
	Drywall Systems	162, 167A	1480 ft^2
	Floor tile/mastic	145, 146, 147, 149, 151, 156, 161, 163	2138 ft^2
779	Pipe Insulation > 4" Diameter	121, 122, 126, 127	1689 ft^2 (1432 l.f.)
	Pipe Insulation < 4" Diameter	001, 100, 103, 103B, 105, 106, 107, 108, 110, 110A, 111, 113, 114, 115, 116A, 116, 117, 118, 119E, 119W, 120, 121, 123, 126, 127, 130, 131, 137, 139, 140, 141, 141A-C, 201, 204, 205, 207, 208, 209, 210A, 211, 212, 212A, 213, 214, 215, 216E, 216W, 217, 218, 219, 220, 222, 223, 224, 228, 234, 234A, 779R	6069 l.f.
	Duct Insulation	126, 127, 779R	280 ft^2
	Tank Insulation	001, 127	233 ft^2
	Flue Insulation	117	32 ft^2
	Pump Ins.	127	40 ft^2
	Brake shoes	104 Elevator	4 each
	Cement Wallboard	106, 107, 108, 109, 110, 110A, 111, 121, 125, 128, 132, 135, 136, 141, 141A-C, 201, 201A-B, 202, 202A, 203, 204, 207, 207A-C, 221B, 221C, 223, 225, 229, 230, 231, 232, 235	7662 ft^2
	Cement Counter	222, 223	56 ft^2
	Drywall Systems	236	150 ft^2

Building	Material	Location (Room #)	Amount
	Floor tile/mastic (carpet)	106, 107, 108, 109, 201, 201A-B, 203, 204, 204A-B, 205, 206, 207, 207A-C, 208, 213, 214	5575 ft^2
	Floor tile/mastic	110, 110A, 111, 114, 115, 116A, 118, 119E, 119W, 122, 124, 128, 132, 135, 136, 138, 140, 140A-B, 141, 141A-C, 202, 202A, 209, 210, 210!, 212, 215, 216E, 216W, 219, 221, 221A-C, 223, 229, 230, 231, 232, 233, 235, 237	11861 ft^2
	Chalkboard	110A, 119E, 128, 205, 221, 221A-C, 228, 229, 230, 231, 232	14 total @ 336 ft^2
	Duct/wall filler	113, 114, 115, 116, 117, 131, 137, 139, 141, 141A-C, 201, 202, 203, 204, 205, 207, 208, 209, 214, 215, 216E, 216W, 228	294 ft^2
	Panel glue	203	414 ft^2
779B	< 4" diam pipe insulation	173, 270, 273-275, 277	362 l.f.
	Drywall system	271	430 ft^2
	Floor tile/mastic	273-275, 277	498 ft^2
	Roofing felt/tar	South side of building	2100 ft^2
729	< 4" diam pipe insulation	throughout	384 l.f.
780	Drywall system	Walls, Ceiling	560 ft^2
782	4" or greater pipe insulation	throughout	456 ft^2 (279 l.f.)
	< 4" diam pipe insulation	throughout	272 l.f.

Appendix D

779 Cluster Beryllium Survey Sample Results

Building 779
Beryllium Surface Survey Results as of 12/09/97

ROOM #	SAMPLE LOCATION DESCRIPTION	SAMPLE RESULTS ug/ft²
103	East wall top of clothing rack	<1
103	Top of hanging lamp east wall	<1
103B	Exhaust vent	<1
103B	Top of conduit next to exhast vent	<1
103A	Light fixture	<1
103A	Fire suppression water line	<1
105	On electrical conduit on east wall of room 105	<0.019
106	On top of computer on rolling cart	<0.019
113	Floor	<1
113	Floor	<1
113	Lathe	<1
113	Floor	7
113	Corner	<1
113	Floor	<1
113	Floor	<1
114	Filter	7
114	Floor	<1
114	Floor	<1
114	Floor	<1
114	Horizontal Surface	<1
114	Floor	<1
114	Floor	<1
115	Filter	<1
115	Electrical box	<1
115	Floor	<1
115	Floor	<1
115	Floor	<1
115A	Filter	<1
115A	Floor	<1
115A	Floor	<1
115	Cabinet #35278-00, second drawer	0.30
115	Top shelf in glass front cabinet next to column D-12	0.084

Table Continued, Page 2

115	On top shelf in cabinet 20 feet north of double door into room 115	0.121
116	Floor next to column E-9	<0.019
116	Floor	<1
116	Panel	<1
116	Floor	<1
116A	Cabinet	<1
116A	Floor	<1
116A	Floor	<1
117	Panel	<1
117	Floor	<1
117	Floor	<1
117	Floor	<1
117	Fan	<1
118	Floor	<1
118	Floor	1
118	Floor	<1
118	Floor	<1
118	Floor	<1
118	Floor	3
118	Air lock floor	<1
118	Air lockfloor	<1
118	Top of scanner	<1
118	Camera	<1
118	Shelf for rosters	<1
118	Top of scanner	<1
119	Floor	2
119	Floor	<1
119	Floor	2
119	Floor	<1
119	Floor	1
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Floor	4

Table Continued, Page 3

119	Floor	<1
119	Floor	2
119	Floor	1
119	FTB 2-B-2 Panel top	<1
119	D&D Red tool box	<1
119	Workbench	1
119	Speaker	<1
119	Source cabinet	<1
119	Floor	2
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Floor	<1
119	Honeywell panel	<1
119	Scanner	<1
119	ELP1C-7 PANEL	<1
119	Electrical panel	<1
119	Speaker	<1
119	PB-6C-1 panel	<1
119	Respirator cabinet	<1
119	Respirator cabinet	<1
119	PCM2	<1
121B	Floor	<1
121B	Floor	<1
121B	Floor	<1
121B	Floor	<1
121B	Floor	<1
121B	Floor	2
121B	Floor	<1
121B	Floor	<1
121B	Floor	<1

Table Continued, Page 4

121B	Cabinet top	<1
121B	Cabinet top	<1
121B	Red fire pipe	<1
121B	Light fixture	<1
121B	Cabinet	<1
121B	TV cabinet	<1
121B	Red fire pipe	<1
121B	Metal detector	<1
121B	Camera	<1
121B	Guard shack	<1
121B	Table/Guard shack	<1
121B	TV/ Guard shack	<1
121B	Guard shack	1
122	Floor	<1
122	Floor	<1
122	Floor	2
122	Floor	3
122	Floor	<1
122	Floor	<1
122	Floor	<1
122	Floor	<1
122	Shelve Floor	<1
122	Shelf top	<1
122	Elec box	<1
122	Control top panel	<1
122	Panel	2
122	Panel	<1
122	Panel	2
123	Floor	<1
123	Floor	<1
123	Floor	<1
123	Floor	<1
123	Floor	<1
123	Floor	<1

Table Continued, Page 5

123	Floor	<1
123	Floor	<1
123	Sink	3
123	Electrical box	<1
123	Sink	<1
123	Shelves	<1
123	Shelves	<1
123	Shelve top	<1
124	Floor near door	<1
124	Floor quad 1	<1
124	Floor quad 2	<1
124	Floor quad 2	<1
124	Floor quad 3	<1
124	Floor quad 3	<1
124	Floor quad 4	<1
124	Floor quad 4	<1
124	Desk	<1
124	Top BC-4	<1
124	Top sac-4	<1
124	Emeergency light	<1
124	Top of cabinet	<1
124	Top of desk	3
124	Top of desk	4
124	Top of speaker	<1
124	Top of cabinet	<1
124	Top of file cabinet	<1
125	Floor by door	<1
125	Floor quad 1	2
125	Floor quad 2	<1
125	Floor quad 2	3
125	Floor quad 3	<1
125	Floor quad 3	<1
125	Floor quad 4	<1
125	Floor quad 4	<1

Table Continued, Page 6

125	Desk	6
125	Cabinet file	<1
125	Top of cabinet	<1
125	Top of cabinet	<1
125	Top of cabinet	<1
125	Top of cabinet	<1
125	Top of cabinet	<1
125	Grill of exhaust	<1
125	Desk	<1
125	Desk	2
125	Top of hutch	<1
125	Top of hutch	<1
125	Shelf	<1
125	Top of cabinet	5
126	Floor	2
126	Floor	2
126	Floor	<1
126	Floor	<1
126	Floor	<1
126	Floor	<1
126	Floor	<1
126	Floor	<1
126	Floor	<1
126	Tank top	1
126	Electrical control top	<1
126	Fliter housing	<1
126	Tank top	4
126	Glovebox top	<1
126	Exhaust top	<1
126	Cabinet top	<1
126	Pipe holder	<1
126	Cooling water console	<1
126	Steamline	<1
126	Tank top	<1

Table Continued, Page 7

126	Battery holder	<1
126	Work table top	4
126	Tool toter top	1
126	Piping	<1
127	Supply vent next to column J-7	<0.019
127	Supply vent approximately 20 feet south of J-7	<0.019
127	Supply vent approximately 20 feet south of J-7 (duplicate)	<0.019
128	Floor just inside door to right in room 128	<0.019
130	On process pipe above door room 128	0.307
131	On top of oven 10 feet inside door	0.046
131	On exhaust vent next to door	0.019
131	On right front side of vent hood in rear of room	0.502
131	Inside small hood possibly from an old atomic absorption unit	0.093
132	Floor near door	<1
132	Floor quad 1	<1
132	Floor quad 2	<1
132	Floor quad 2	3
132	Floor quad 3	<1
132	Floor quad 3	<1
132	Floor quad 4	<1
132	Floor quad 4	2
132	Top of transformer	<1
132	Top of PCM 2	<1
132	Desk	<1
132	Desk	<1
132	Desk	<1
132	Alpha	<1
132	Desk	<1
132	Desk	<1
133	Overhead	7
133	Overhead	<1
133	Overhead	5
133	Overhead	5
133	Overhead	<1

Table Continued, Page 8

133	Overhead	<1
133	Floors	<1
133	Floors	<1
133	Floors	7
133	Floors	<1
134	Flammable cabinet 40	<0.05
135	East wall drum	<1
135	East wall bench	<1
135	South wall shelf	<1
135	South wall bench	1
135	West wall shelf	<1
135	North wall cabinet	<1
136	South wall shelf	<1
136	South wall floor	<1
136	East wall shelf	1
136	East wall floor	<1
136	West wall shelf	<1
136	North wall floor	<1
137	Overhead	1
137	Overhead	<1
137	Overhead	<1
137	Overhead	5
137	Overhead	7
137	Overhead	<1
137	Floor	9
137	Floor	<1
137	Floor	5
137	Floor	<1
138	East wall shelf top	<1
138	East wall bottom shelf	<1
138	South wall Top shelf	<1
138	South wall bottom shelf	<1
138	West wall top shelf	<1
138	West wall bottom shelf	<1

Table Continued, Page 9

139	Desk top, beneath cabinet #1	<0.05
139	Overhead	<1
139	Overhead	<1
139	Overhead	<1
139	Overhead	7
139	Overhead	7
139	Overhead	<1
139	Floor	<1
139	Floor	<1
139	Floor	3
139	Floor	<1
140	Bench #1, east side, right section of drawers, top drawer	0.11
140	Bench #1, east side, middle section of drawers, top drawer	0.58
140	Bench #1, east side, left section of drawers, second drawer	0.33
140	Bench #1, east side, left section of drawers, third drawer	<0.1
140	Bench #1, west side, right section of drawers, top drawer	<0.1
140	Bench #1, west side, middle section of drawers, top drawer	<0.1
140	Bench #1, west side, middle section of drawers, second drawer	2.88
140	Bench #1, west side, left section of drawers, top drawer	<0.1
140	Bench #1, west side, top of bench	0.06
140	Cabinet #35825-00, top drawer	0.52
140	Cabinet #35825-00, second drawer	0.32
140	Cabinet #35825-00, third drawer	0.14
140	Cabinet #5, second shelf	0.10
140	Cabinet #5, bottom shelf	0.41
140	Counter top beneath cabinet 5	<0.1
140	Cabinet 9, bottom right of cabinet	<0.1
140	Cut off saw on the right side of hood 140E, see attached map	<1
140	Cut off saw on the right side of hood 140E, see attached map	18
140	Cut off saw on the right side of hood 140E, see attached map	2
140	Cut off saw on the right side of hood 140E, see attached map	25
140	Cut off saw on the left side of hood 140E, see attached map	52
140	Cut off saw on the left side of hood 140E, see attached map	>105
140	Cut off saw on the left side of hood 140E, see attached map	50

Table Continued, Page 10

140	Cut off saw on the left side of hood 140E, see attached map	>105
140	Reciprocating saw in hood 140E, see attached map	28
140	Reciprocating saw in hood 140E, see attached map	30
140	Reciprocating saw in hood 140E, see attached map	>105
140	Floor of hood 140E, east side	22
140	Floor of hood 140E, west side	20
140	Belt sander in hood 140W, see attached map	25
140	Belt sander in hood 140W, see attached map	<1
140	Belt sander in hood 140W, see attached map	<1
140	Belt sander in hood 140W, see attached map	17
140	Belt sander in hood 140W, see attached map	5
140	Floor of hood 140W	<1
140	Exhaust vent next to door	.056
140	Floor under safety shower	.130
140	On splash board on west wall	0.223
141C	Supply vent	0.056
141C	Exhaust vent	0.28
141C	In wall mounted cabinet on east wall	0.818
142	Inside desk drawer approximately 10 feet SW of column G-4	<0.019
142	2nd shelf inside cabinet next to column J-4	<0.019
142	On flange cover from chiller ID#331-139	0.028
142	Supply vent upstairs 10 feet east of column G-3	<0.019
142	On I-beam support for stairs near middle of room	<0.019
142	On I-beam support for stairs near middle of room (duplicate)	<0.019
142	Floor 4 feet. north of door 3	<0.019
142	On pipe just south of stair landing	<0.019
142	On pipe just south of stair landing (duplicate)	<0.019
144	Floor	<1
144	Floor	<1
144	Floor	<1
144	Emergency light	<1
145	Cabinet	<1
145	Cabinet	<1
145	File cabinet	<1

Table Continued, Page 11

145	File cabinet	<1
145	Desk	<1
145	Floor	<1
145	Floor	<1
145	Floor	4
145	Floor	<1
146	Shelf	<1
146	Shelf	<1
146	Drum	<1
146	Drum	4
146	Drum	<1
146	Drum	<1
146	Wood shelf	<1
146	Drum	<1
146	Metal shelf	<1
146	Floor	<1
146	Floor	<1
146	Floor	<1
146	Floor	<1
147	Floor	3
147	Floor	<1
147	Floor	<1
147	Floor	<1
147	Drum	<1
147	Drum	<1
147	Drum	<1
147	Drum	<1
147	Thermostat	<1
147	On loud speaker outside room 159 and 157	0.130
149	Floor	<1
149	Floor	<1
149	Floor	<1
149	Floor	<1
149	Supply vent in hallway outside room 150	<0.019

Table Continued, Page 12

149	On top of cabinet on wall between room 152 and 154	0.019
149	Floor in hall across from room 147	0.046
150	On top of door on end of tank ID#276-003 (green tank)	0.288
150	On milling machine between brown and green tanks	1.283
150	On floor at northwest corner of tank ID#276-001-000	0.967
150	Next to step north center of room	.270
150	Random survey inside portable tool chest	<0.1
150	Cabinet #5, top shelf	2.10
150	Cabinet #5, second shelf	2.11
150	Cabinet #1, top three shelves	0.64
150	Cabinet #1, bottom two shelves	0.78
150	Blue cabinet, north central wall, second shelf	0.24
150	Floor	<1
150	Floor	<1
150	Floor	<1
150	Floor	<1
150	Floor	<1
150	Floor	<1
150	Floor	<1
150	Floor	2
150	Room exhaust filter	<1
150	Green tank	<1
150	Blue EB welder	<1
150	Tool box	<1
150	Abrasive cutter	<1
150	File cabinet Brown	<1
150	Vacuum system	<1
150	Grinding table	<1
150	Gray EB welder	2
150	Gray EB welder	<1
150	Surface plats	<1
150	Crate	<1
150	Metal work bench	1
150	Glove box	<1

Table Continued, Page 13

150	Room exhaust filter	<1
151	Floor	<1
151	Floor	<1
151	Floor	<1
151	Floor	<1
151	Desk	<1
151	File cabinet	<1
151	File cabinet	<1
151	Tool box	<1
152	Overhead (sample #1)(see map #2)	<1
152	Overhead (sample #2)	<1
152	Overhead (sample #3)	<1
152	Overhead (sample #4)	<1
152	Overhead (sample #5)	<1
152	Overhead (sample #6)	<1
152	North side of room	<1
152	South side of room	13
152	South side of room	<1
152	North side of room	<1
153	Drum Top	<1
153	Drum Top	<1
153	Drum Top	<1
153	Desk Top	<1
153	Drum Top	<1
153	Drum Top	<1
153	Drum Top	<1
153	Floor	<1
153	Floor	<1
153	Floor	<1
153	Floor	<1
153	Floor	<1
153	Floor	<1
153	Floor	<1
153	Floor	1

Table Continued, Page 14

153	SAAM Platform	<1
153A	Floor	<1
153A	Floor	<1
153A	Floor	1
153A	Floor	2
153A	Floor	<1
153A	Floor	1
153A	Floor	3
153A	Base holding pump motor	<1
153A	Half moon cart	<1
153A	Compactor	<1
153A	Trash can	<1
153A	Pump	<1
153A	Drum lid	3
153A	Drum lid	2
153A	Drum lid	<1
153A	Compactor	5
153A	Electrical panel on wall	<1
153A	Pump/ motor	<1
153B	Floor	1
153B	Floor	2
153B	Floor	<1
153B	Floor	<1
153B	Floor	<1
153B	Floor	<1
153B	Floor	<1
153B	Floor	1
153B	Stainless Steel Pipe	<1
153B	Scale	<1
153B	Metal Box	<1
154	Overhead	<1
154	Overhead	<1
154	Overhead	<1
154	Overhead	11

Table Continued, Page 15

154	Overhead	<1
154	Overhead	5
154	North Side floor	<1
154	South Side floor	<1
154	South Side floor	7
154	Middle of room floor	<1
155	Supply vent southeast corner of room 155	0.251
155	Cabinet #3, top shelf	<0.1
155	Cabinet #3, second shelf	<0.1
155	File card cabinet, south east corner of room, random locations	<0.1
155	File card cabinet, south east corner of room, random locations	<0.1
155	File card cabinet, south east corner of room, random locations	<0.1
156	Floor	<1
156	Floor	<1
156	Floor	<1
156	Floor	<1
156	Floor	<1
156	Floor	<1
156	Floor	<1
156	Floor	<1
156	Compter cabinet	<1
156	Blue box	<1
156	Cart	<1
156	Air mover	<1
156	Blue box	<1
156	Computer	<1
156	Green breaker box	<1
156	Grey breaker box	<1
156	Breaker box	1
156	Power supply	<1
156	Electrical box	1
156	Cart(yellow)	<1
157	Box, north west corner of room, random location	<0.1
157	Box, north west corner of room, random location	<0.1

Table Continued, Page 16

157	North side (See map #2)	<1
157	South side	<1
157	South side	<1
157	South side	11
157	South side	<1
157	East side of room	5
157	North Side	<1
157	Middle of room	<1
157	Middle of room	7
157	Middle of room	<1
159	Floor	<1
159	Floor	<1
159	Floor	<1
159	Floor	<1
159	Floor	<1
159	Floor	<1
159	Floor	2
159	Floor	<1
159	Tool toter	<1
159	Tool toter	<1
159	Tool toter	<1
159	Tool toter	<1
159	Tool toter	<1
159	Tool toter	<1
159	Cabinet	<1
159	Cabinet	<1
159	Tool toter	<1
159	Tool toter	<1
160	Surface	<1
160	Surface	<1
160	Surface	<1
160	Surface	1
160	Surface	<1
160	Surface	<1

Table Continued, Page 17

160	Floor	<1
160	Floor	3
160	Floor	2
160	Cabinet top	<1
160	Glovebox	<1
160	Cabinet top	<1
160	Oven	1
160	Desk	<1
160	Glovebox	<1
160	Electrical cabinet	1
160	Cabinet	<1
160	Cart	<1
160	Cabinet	<1
160	Electrical cabinet	<1
160	Glovebox	<1
160	Glovebox	<1
160	Glovebox	<1
160	Glovebox	<1
160	Electrical cabinet	<1
160	Glovebox	<1
160	Electrical cabinet	<1
160	Glovebox	<1
160A	Floor	<1
160A	Floor	<1
160A	Floor	<1
160A	Floor	1
160A	Floor	<1
160A	Alarm cabinet	<1
160A	Shelf	2
160A	Shelf	<1
160A	Shelf	<1
160A	Shelf	<1
160A	Cabinet	2
160A	Cabinet	2

Table Continued, Page 18

160A	Shelf	<1
161	Floor	1
161	Floor	<1
161	Floor	<1
161	Cabinet	<1
161	Cabinet	<1
161	Sink	<1
161	Pump	<1
161	Electrical panel	<1
162	All room 162 For exact location see map(Over head)	5
162	Over head	<1
162	Over head	1
162	Over head	<1
162	Over head	<1
162	Over head	<1
162	Lathe # 010-038	<1
162	Lathe # 010-038	<1
162	Lathe # 010-038	3
162	Servomet Cabinet	1
162	Servomet Cabinet	<1
162	Cabinet #1	1
162	Cabinet #2	<1
162	Cabinet #3	<1
162	Cabinet #3	1
162	Lathe #00-067	1
162	Lathe #00-067	3
162	Lathe #00-067	5
162	Lathe #00-067	7
Cage	On pump near Be hopper	<1
Cage	Near bag on hopper	<1
Cage	On hopper	5
Cage	On hopper	<1
Cage	On Be hopper	<1
Cage	On Be hopper	<1

Table Continued, Page 19

Cage	Floor in cage area	<1
Dock Area	Flloor	<1
Dock Area	Floor	<1
Dock Area	Floor	<1
Dock Area	Floor	<1
163A	Floor	<1
163A	Floor	<1
163A	Floor	<1
163A	Shelves	2
163A	Shelves	<1
163A	Shelves	<1
165	Exhaust vent North side of room	<1
165	Exhaust vent	<1
167A	Exhaust vent	1
167	Top of lockers	<1
167	Top of shelf	<1
167	Top of lockers	<1
171	Floor	<1
171	Horizontal surface	<1
171	Floor	<1
171	Horizontal surface	<1
171	Horizontal surface	5
171	Floor	<1
171	Edges	<1
171	Edges	4
171	Floor	2
171	Piping	<1
171	Electrical box	<1
171	Floor	<1
171	Horizontal surface	7
171	Horizontal surface	<1
171	Flloor	<1
171	Door edges	3
171	Door edges	<1

Table Continued, Page 20

171	Ledges	<1
171	Ledges	<1
171	Desk	<1
172	Floor	<1
172	Floor	<1
172	Floor	<1
172	Floor	<1
172	Carrier	2
172	Carrier	<1
172	Floor	<1
172	Ledge	<1
172	Ledge	<1
172	Ledge	<1
172	Piping	<1
172	Piping	3
172	Floor	<1
172	Carrier	<1
172	Floor	7
173	South side floor	<1
173	NW	<1
173	NW	<1
173	North side floor	<1
173	North side floor	2
173	Equipment top	<1
173	South side floor	<1
173	Top of box	5
173	Piping	<1
173	Middle of room	<1
173	Elec. box	<1
173	Piping	<1
201	Bus Duct	<1
201	Door vents	13
201	Cabinet #4	24
201	Cabinet #3	13

Appendix E

PCB Evaluation for the 779 Cluster

779, Room 113	Machine Shop	Wall paint off-white latex; Floor-battleship gray epoxy	Evaluate equipment for PCB containing oils
779, Room 121	Maintenance Shop	Wall paint off-white latex; Floor-battleship gray epoxy	Evaluate equipment for PCB containing oils (Bridgeport Press, etc.)
779, Room 131	Aqueous Lab	Wall paint light-blue latex; Floor battleship gray epoxy	None
779, Room 134	Flammable Chemical Storage	Wall paint off-white latex; Floor beige tiles	None
779, Room 137	Peroxide Precipitation Lab	Wall paint ocher and yellow latex; Floor battleship gray epoxy; GB 106-6 and adjacent box are ss; GBs 106-2 through 106-5 are paint with gray enamel outside and white paint inside	None
779, Room 139	Ferrite Actinide Removal Lab, Waste Storage	Floor painted yellow, minimum two coats; wall paint off-white latex; GBs 139-1, 139-2 inside flooring painted white, inside and outside walls not painted; GBs 106-2 and 106-5, exterior painted gray, interior painted white; GBs 139-3, 4, and 139-Hood, ss	None
779, Room 140	Metal Prep Lab	Tile floor; wall paint off-white latex	None
779, Room 150	Joining Lab	Poured floor brown-speckled; wall paint light-green latex, painted over white	Evaluate electrical equipment for PCB oils
779, Room 152	Casting Lab	Poured floor, brown-speckled; wall paint off-white latex; GBs not painted inside, off-white/yellow epoxy outside	Evaluate power generator for PCB oils
779, Room 153	Drum Storage	Poured floor painted battleship gray and beige; wall paint light-green latex	None

779, Room 153A	Drum Storage	Poured floor painted battleship gray; wall paint white latex	None
779, Room 154	Hydrating Lab	Poured floor painted battleship gray, multiple layers; wall paint light-blue latex; GB 4933 painted white/silver inside and green epoxy outside; GB 7248 painted blue epoxy outside	None
779, Room 155	Sample Mounting Lab	Poured floor painted battleship gray and light-gray over brown paint; wall paint light-green latex; GBs not painted, standard hood	None
779, Room 157	Tensile Testing Lab	Poured brown floor; walls painted blue, lavender, salmon, bright yellow latex; GBs not painted	Evaluate electrical equipment for PCBs
779, Room 159	Pyrochemical Lab, RCRA permitted storage	Poured floor brown epoxy; walls painted off-white latex	None
779, Room 160	Pyrochemical Lab	Poured floor painted battleship gray and light gray over cement; wall paint light-blue latex; One GB painted blue epoxy (appears to be new) and the rest are light-green epoxy	Evaluate electrical equipment for PCBs.
779, Room 162	Machine Ship	Could not locate room	Evaluate electrical equipment for PCBs
779, Room 167	Locker Room		Evaluate wall paint for PCBs.
779, Room 167A	Locker Room		Evaluate wall paint for PCBs.
779, Room 173	Utility Area	Could not locate room	Evaluate electrical equipment for PCBs
779, Room 217	Physical Chemistry Lab	Poured floor; walls light-blue, yellow, beige latex; GBs not painted; I-beam black oil based paint	Evaluate electrical equipment for PCBs

779, Room 218	Physical Chemistry Lab	Poured floor painted gray, beige, and some spots purple; walls light-blue latex; Hoods painted inside, 218-SW beige inside, other hood white	Evaluate electrical equipment for PCBs
779, Room 220	Metallurgy Lab	Poured floor; walls light-blue, white, beige, latex; GBs stainless steel (ss)	None
779, Room 222	Physical Chemistry Lab	Poured floor; walls salmon latex; GBs painted outside, one blue, one green; B-boxes 105 and 106 painted	Evaluate electrical equipment for PCBs
779, Room 223	Coatings Lab	Tile floor with light-gray epoxy painted area; wall paint light and medium blue latex; several hoods	Evaluate electrical equipment for PCBs
779, Room 225	Coatings/Beryllium Lab	Poured floor; walls light-blue latex	Evaluate electrical equipment for PCBs
779, Room 228	Sample Prep Lab	Poured floor beige color; walls yellow, beige, ochre, teal, green latex; No painted GBs	PCB Idle equipment with labels, no out of service date; test floor for PCBs.
779, Room 234A	Metallurgy Lab	Poured floor; walls ochre, soft yellow, burnt orange, dark green, and black latex; beige underneath some areas, oil based paint underneath some of wall area; GBs are not painted	None
779, Room 270	Physical Chemistry Lab	Poured floor; walls light-green latex; GB 3072 painted with epoxy on outside	Evaluate electrical equipment for PCBs
779, Room 272	Testing Lab	Poured floor; walls light green, yellow, white latex	None
Building 727	Generator Building	Not entered	Evaluate electrical equipment for PCBs

Appendix F

779 Cluster Idle Equipment

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/4/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
121	Buffalo Forge Company Dril Press	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
		00035774-00						4/23/97								
121	Rockwell Belt Sander	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
					KY1610			4/23/97								
126	Old Sanitary water holding tank--NDT Tank Inventory #1744	Water	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
								4/29/97								
126	CRYOFAB 6SS tank	Refrigerations units which utilizes helium	7 tanks	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	Has 3.5HP vacuum pump attached which is contaminated per C. Gibson	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Helium Reservoir 3X3.5X6'
					P5992H			4/29/97								
127	AC #1 Kathabar System (ID # is sep from this system)	condensate in holding tanks	None at the present time	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	NO	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Occasionally accumulatres condensate in the holding tanks; will sample when sufficient amount present
		779-0088						4/29/97								
131	Less than 750degreeF oven for drying	Blue Electric Co	1	0	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Large 4X4X5 furnace (Oven) less than 750F
								4/30/97								
133	Furnace System	NA	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
159								4/29/97								
133	Furnace System	NA	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
160								4/29/97								
133	Miscellaneous Vacuum Pumps	Oil	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
								4/29/97								
139	Miscellaneous piping/Tyler Sieve Sharer	Undetermined	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
139-4								4/30/97								

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/4/97

oom	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
40	Leco Pneumatic Mounting Press	NA 00036219-00	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
40	Lapping Table (Syntron)	NA None	4	NA	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
40	Jarrett Speciman Prep	Automatic Specimen Prep 1	4	NA	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
40	Leco Press	None 00036219-00	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/30/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
40A	Leco 300 Metallograph	NA 00036857-00	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
41	SSX-100 ESCA Spectrometer--Model # ESCA101	X-ray producing spectrometer 1	4	NA	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	DOE	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☒ Y ☐ N ☐ U	☐ Y ☐ N ☒ U		• Hi-tech Spectrometer and associated two control cabinets and compsta and printer
41A	Polaroid Film X-ray-microscope and associated four cabinets	Camera Instruments microscan 1 00036237-00	4	HP Registry 087	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	Combox control panel and tracer northern controller	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☒ Y ☐ N ☐ U	☐ Y ☐ N ☒ U		• X-ray Producing mocroscope
41A	Associated four cabinets with microscope	Camera Instruments microscan 1 00036893-00	4	NA	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	Combox control panel and tracer northern controller	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☐ N ☒ U	☐ Y ☐ N ☒ U		
41B	Scanning Mocroscope (with computer DOER)	JEOL JSM-35C with attached "DOER" 1	4	No	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	2 control cabinets 011 Cooling Pump, OSP Registry--D-094--1.5L	☐ Y ☒ N ☐ U	☒ Yes ☐ No ☐ Unkn	☐ Y ☐ N ☒ U	☒ Y ☐ N ☐ U		X-ray analyzer of Polaroid Film (film loaded)
41C	Bausch and Lomb "Xenon 450" Research II Metallograph	Contains Xeonon Heavy Inert Gas 1	4	NA	NA		☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☐ N ☒ U	☒ Y ☐ N ☐ U		• Kodak shuttered associated film equipment

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/4/97

oom	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
11C	Bausch and Lomb Fiber-Lite	Polaroid enlarger equipment	2	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☒ Y ☐ N ☐ U	☐ Y ☐ N ☒ U		
50	Inert Welding Chamber		Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☐ N ☐ U		
50	Vacuum Chamber	775-5875047	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/30/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
50	Vickers Welder	Possible PCBs 00034892-00	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/30/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		Possible PCBs
0	Squaring Fixture (Vacuum System)	Squaring fixture with associated vacuum	1	4	No	No	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• System has a small vacuum pump (011)
0	Inert Welding Chamber	NA	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	NO	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain hazardous material
0	Vacuum Pump (Large) with large secondary vacuum pump large reservoir	Possible HE200 oil in reservoir	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Model WA1000
0	Leybold-Heraeus Control Cabinet	6' by 12' by 3'; possible PCB Capacitors	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☒ Y ☐ N ☐ U	☐ Y ☐ N ☒ U		• Large control connect for X-ray vacuum system
0	Kinney Vacuum Chamber	Possible oil in pump and condensate D7755875047	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	NO	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
0	Vickers Welder	Possible PCB capacitors 00034892-00	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		•Idled prior to 5/1/95

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/4/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
50	Welder	Possible PCB capacitors 00035910-00	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• TSCA • Idled prior to 5/1/95
50	Inert Chamber	NA	None	4	NA B-24198DWPC1	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	NO	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
50	Arc Welding Power Soruce	Possible PCB Capacitors 00036536-00	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
50	DC Welding Power Source	Possible PCB capacitors 00040744-00	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
50	Copeland Refrigeration/ Condensing Unit	Freon/Oil, Beryllium Contaminated	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Heavy leaded sheilding around X-ray unit (RU VAC Units) Large evaporative unit (Pd lined)
50	Hamilton Standard Power Supply	Oil and Filter 12G0733252	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Power Supply 3X4X8 oil filter
50	Reliance Electric Hydraulic Lift	possible oil	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Old movable heavy duty hydraulic lift-electric
50	Snogen Automatic Cleaner--Solvent tank heater and hood SSteel	Solvent tank heater and hood	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Well cleaned or never used
50	Leybold-Heraeus X-ray - Welder (combined and includes the control cabinet)	Old oil drained	1	4	OHP Registry	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		•Has been retrofitted with non-PCB oil (may still be greater than 50ppm). Large heavy 3-major components hi-tech welkder
52	Bueler Hydraulic Press (Manual)	Hydraulic Oil 221164	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/4/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
52	Inducto Motor Generator	Possible PCB Capacitors 00034193-00	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
53A	Rectifier/Transformer on the wall	Disc'd transformer, possible PCBs	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	no	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
53A	7.5HP Compressor	Oil in disconnected compressor 00035872-00	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
54 365	Leaching Operations	NA - Process Cooling Water	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
54 363	Hydride Process	Process Cooling Water, etc.	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
54 364	Hydride Process	Process Cooling Water, etc.	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
54 333	Hydride Process	Process Cooling Water, etc.	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
54	Easter Owens Master Control Console	Possible PCB capacitors 00002654-00	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
54	Advanced Vacuum System Controller; Master Electric Controller	Elec Controller	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• 3' X 3' X 6'H electric panel connected to Glovebox by vacuum line
54 463	Motor Generator	motor generator cooling oil--H_2O connector	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Motor generator cooling oil-water connector to small vacuum pump (Oil) and connected to GB

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/3/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
55	Small Cupelling Furnace (high temperature)	Heavy Metals (AG? (CD)	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Electric Cupelling Furnace contaminated with heavy metals. (AG?, CD)
55	Leitz Metallograph and Power Supply (Model #345)		None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No		☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
		00031453-00														
55	Lapping Operations in GBs 222, 223, 224, and 225	Epoxy, etc.	less than 1 lb	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• • Idled prior to 5/1/95
22								4/29/97								
56	No 1 Calorimeter	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No		☐ Y ☐ N ☐ U	☐ Yes ☐ No ☐ Unkn	☐ Y ☐ N ☐ U	☐ Y ☐ N ☐ U		• Idled prior to 5/1/95
								4/29/97								
56	No 2 Calorimeter	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☐ No	☐ Yes ☐ No		☐ Y ☐ N ☐ U	☐ Yes ☐ No ☐ Unkn	☐ Y ☐ N ☐ U	☐ Y ☐ N ☐ U		• Idled prior to 5/1/95
								4/29/97								
56	Calorimeter	NA	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
								4/30/97								
56	Calorimeter	NA	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
								4/30/97								
57	Semi Portable Hydraulic Supply Unit		1	4	No	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No		☐ Y ☒ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☒ Y ☐ N ☐ U		
								4/29/97								
57	High Speed Tensile Testing, GB 223 and 224	Possible lubricating/ Hydraulic Oil	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
23								4/29/97								
57	MTS Tensile Tester	Possible Hydraulic oil	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
					669-017			4/29/97								

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/4/97

oom	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
57	Instron Universal Tensile Tester	Possible hydraulic oil 00044693-00	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
60 64	Motor "tilt" Furnace	Furnace new un-used, Cold Freon Refrigeration	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No		☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Generator could have possible PCBs • New never used rotary Tilt Furnace 1.5KV, 440 Power Supply
80	High Vacuum Equipment	Possible PCB Capacitors 00036813-00	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
60	Ind. Heating Unit	Possible PCB capacitors 00036633-00	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No		☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material
60 65	Furnace No1; Two small water flow vacuum pumps	Controller, Elec Furnace	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Small vacuum pump
60 65	Furnace No 2; small water flow vacuum pump	Controller, Elec Furnace	1	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Small vacuum pump
0	Vacuum Pump Welch--Model 1398, 3HP	Oil	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/29/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• 3 HP Model #1398 Vac Pump
2	Moore Jig Bore	Lube Oil 000-34970-00	less than 1 gal	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/30/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
2	South Bend Lathe	Gear Oil 00036452-00	2 gallons	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/30/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Sampled under D&D 97PO954 on 1/23/97 • Idled prior to 5/1/95
7	Cool Flow Refrigerated Recirculator	Possible CFCs	Undetermined	4	N/A	N/A 88B ML67530-1	☐ Yes ☒ No	☐ Yes ☒ No 4/30/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/1/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
217	Cool Flow Refrigerated Recirculator	Possible CFCs	Undetermined	4	N/A	N/A	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
					86FMC27930-1			4/30/97								
217	VG Scientific LTD X-ray	possible PCB capacitors in controllers & transf	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☒ Y ☐ N ☐ U	☐ Y ☐ N ☒ U		• Not expected to contain material
								4/30/97								
218	Rayonet Photochemical Reactor	PCBs	less than 1 pt	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• UV lights have capacitors--listed for possible PCBs
		79-839-9418						4/25/97								
218	Elgin LatheZE9	Oil, possible metals	< 1 pt	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• HAZCAT not sure, possible metals
								4/25/97								
218	Gamma Cell 220, ZE8	Cobalt 220	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
								4/25/97								
218	Hobart Mixer	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	Possibly PU&D	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • May be surveyed for free release
		00048408-00						4/25/97								
218	Mettler Instruments Unit #25796	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	Possible PU&D	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
								4/25/97								
218	Mettler PC 8000	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	Possible PU&D	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material • Possible free release
		000-01321-489935						4/25/97								
218	EG&G Chandler EngineeringViscometer	NA	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	Possible PU&D	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expect to contain material • May be free released
		00088740-00						4/25/97								
220	Gravity Convection Oven	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
					10AY4			4/25/97								

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/5/97

oom	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
20	Mettler Instrument	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	Possible PU&D	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
		00035966-00						4/25/97								
21B	Miscellaneous Piping	Undetermined	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
		00036054-00						4/30/97								
22	Hydraulic Press Motor/Vacuum Pump	Undetermined	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
91								4/30/97								
22	Battery	Undetermined	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
36								4/30/97								
22	Guinier-Hagg Camera	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain contaminants
		00036335-00						4/25/97								
22	GE Dry Transformer	Oil--possible PCB contaminated oil	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• TSCA
02D								4/28/97								
22	Miscellaneous Vacuum/ DIffusionPumps	Oil	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
0								4/20/97								
2	Blue M. Transite Oven	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expected to contain material • Idled prior to 5/1/95
2								4/25/97								
2	Cary Recording Spectrophotometer	NA	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
		00035778-00						4/25/97								
2	T-60 NMR Spectrometer	Unknown	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
								4/25/97								

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/5/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
222	Right-A-Weigh Measuring Machine; Inventory D-71-3772-29737	NA D-71-3772-29737	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
222	Unimat Bench Lathe; Inventory D-91-2592-35017	NA D-91-2492-35017	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
222	Thermolyne Type 1400 Furnace	NA 1250	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/25/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
222A	Vessel/Tank	00036023-00	None	4		NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	Labeled: "Contents Plutonium Contaminated"	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
222A	Mettler Electronics Ultrasonic Cleaner	NA 86A506	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
222A	Item	NA 00037076-00	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	NO	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
223	Hot Hollow Cathode Coating System #3, Diffusion Pump/Vacuum System	Process water/Vacuum Pump Oil D-25889-4	PW < 1 gal; Oil < 1 qt: PCBs	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/25/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Drawing D-25889-4 • Process Water Supply/ Return visible in gauges • Possible PCBs in capacitor (Elec Equip Sys) • Installed 1979 - 4 pcs
225	Dayton Pedestal Grinder Catalog # 47124A	NA 47124A	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/24/97	☐ Yes ☒ No	NO	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
225	Airco Temesca/Vacuum Chamber	Process Cooling Water Diff Vacuum Pump oil 00035190-00	PCW < 2 gal Oil < 1 gal	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/24/97	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Actively hooked up to building sys
228 45	Tensile Tester	779-520	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		Idled prior to 5/1/97

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/3/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
228 045	Tensile Tester	779-521 n	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		Idled prior to 5/1/95
228	High Voltage Transformer	Unknown--Possible PCBs	Unknown	4	F13861	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☒ Yes ☐ No	No	☐ Y ☐ N ☒ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		Idled prior to 5/1/95
228	Tank Diffusion Pump	Unknown--Possible PCBs	Unknown	4	305-090	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☒ Yes ☐ No	No	☐ Y ☐ N ☒ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
228 202	Vari-Cut VC-50	Alcohol - evaporated 00037168-00	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Only allowed Alcohol and all has evaporated. • Idled prior to 5/1/95
228 202	ISOMET Cut-off Saw	Cutting Oil (ISOcut) 00036430-00	less than 1 qt	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Flashpoint = 141F • contains Kerosene and Natural oil
228 200	Miscellaneious Instrumentation--Data meter (MGW lauda)	Cooling water or possible oil	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
228 92	Heat Treating Unit (Heat treatment of Beryllium and Plutonium)	Be, Pu, Asbestos (Furnaces)	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
228 02	Scan DIA	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expect to contain material
28 02	Scan DIA	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Not expect to contain material--also located under Hood 202
28	Instron Tester	NA	None	4	852	NA	☐ Yes ☒ No	☐ Yes ☒ No 4/28/97	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/5/97

Room	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
228	Recorder	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
			00036873-00					4/28/97								
228	Recorder	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
			00019130-00					4/28/97								
228	High Voltage Transformer	Possible PCBs in transformer	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
					F13863			4/28/97								
228	Tank Diffusion Pump	Dichlorophene & Distilled water	5-7 gallons	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
					305091			4/28/97								
228	White Box	Unknown	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Internal contamination but do not know contents
			00036173-00					4/28/97								
228	Marshall Control	Possible PCB capacitors	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No		☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
			00035821-00					4/28/97								
228	Instron Recorder	Possible PCB capacitors	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain materials
					1230			4/28/97								
228	Linsburg Heavy Duty (2 pieces)	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
					Unavail			4/28/97								
228	National Appliance Co (Oven)	NA	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
199								4/28/97								
233	Vessel with Pump	Oil	5 gallons	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
					BC-6091			4/30/97								

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/3/97

toom	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
34	Measuring Device	Oil (Vacuum Pump)	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No		☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		Idled prior to 5/1/95
		0036275-00						4/28/97								
34	Dimpler	Process appears to be oil, Proc Knowl unavail	less than 1 pt	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
					47			4/28/97								
34	LECO 300 Metallograph	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	NO	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Labeled "XXXXX dpm Fixed Contamination?
		00036858-00						4/28/97								
34	Leotz Wetzlar/ Microscope	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☒ Y ☐ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Labeled "Pu contaminated (Internal)"
		00031245-00						4/28/97								
34	Leitz Wetzlab Microscope	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
		00031311-00						4/28/97								
34A	Miller Welder	Possible PCB Capacitors	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Possible PCB capacitor
		00026164-00						4/28/97								
34A	Air Conditioner	Unknown	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
		AQD779-004						4/28/97								
34B	Arkay dual-dm	Unknown, Process Knowledge unavail	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		Idled prior to 5/1/95
								4/28/97								
34B	Buehler Ecometi Grinder	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
					341-ECO-653			4/28/97								
34B	Flexi-cool	Possible Refrigerant material	Unknown	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No		☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/97
		00036364-00						4/28/97								

BUILDING 779 MATERIAL CONTAINED IN IDLE EQUIPMENT

As of: 12/5/97

oom	Description of Equip	Descrip of Material	Qty	HAZ CAT	Postings	Inspections	PATS	WSRIC	LOTO	Other	RAD	Waste Charc. Haz	Reqd to maintn value	Comm Use/ Value	How to Dispose Mat'l	Comments
34B	Simmon Omega Variable Condenser	NA	NA	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☒ N ☐ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95 • Not expected to contain material
					222315			4/28/97								
35	Refrigeration Unit, AQD 779-005	Possible Freon	Undetermined	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☒ No ☐ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		
		AQD779-005						4/30/97								
35	24-130B Leak Detector	Possible Helium	None	4	NA	NA	☐ Yes ☒ No	☐ Yes ☒ No	☐ Yes ☒ No	No	☐ Y ☐ N ☒ U	☐ Yes ☐ No ☒ Unkn	☐ Y ☒ N ☐ U	☐ Y ☒ N ☐ U		• Idled prior to 5/1/95
		00044772-00						4/30/97								

Appendix G

779 Cluster Excess Chemicals

SHORT CHEMICAL REPORT

BarCode	Chemical	Building	Loc. Code	Size	Units	Status ID	Status	Date Inv.	Profile ID
16388	Rykon Premium Grease No. 2ep (rf #662)	780	4311	5	Gallon (gal)	3	Waste	9/28/97	1095
16400	F-100 Penetrating Asbestos Encapsulant	780	4311	5	Gallon (gal)	3	Waste	4/21/94	1827
16401	Lagfas Adhesive, Foster 81-42w	780	4311	5	Gallon (gal)	3	Waste	9/30/97	16057
16408	Lag-kloth, Lag Kwik, Lag Strip	780	4311	5	Gallon (gal)	3	Waste	9/30/97	794
16409	Ramcote 1200	780	4311	50	Pound (lb)	3	Waste	9/30/97	50415
16410	Ramcote 1200	780	4311	50	Pound (lb)	3	Waste	9/30/97	50415
16560	Golden Harvest Wheat Paste	780	4311	5	Pound (lb)	3	Waste	4/23/97	34271
212973	Epoxy, High Build Activator #9502	780	4311	1	Quart (qt)	3	Waste	8/27/97	25993
212974	Rust-oleum High Build Epoxy System 9578	780	4311	1	Gallon (gal)	3	Waste	9/26/97	36145
262494	Fta 20 Adhesive	780	4311	1	Gallon (gal)	3	Waste	4/21/97	27047
262495	Fta 20 Adhesive	780	4311	1	Gallon (gal)	3	Waste	4/21/97	27047
262496	Fta 20 Adhesive	780	4311	1	Gallon (gal)	3	Waste	4/21/97	27047
262497	Fta 20 Adhesive	780	4311	1	Gallon (gal)	3	Waste	4/21/97	27047
269394	Gill #33 Superbond	780	4311	1	Gallon (gal)	3	Waste	9/26/97	7611
269396	Gill #33 Superbond	780	4311	1	Gallon (gal)	3	Waste	9/26/97	7611
345849	Apelco Sealing Cement	780	4311	1	Pint (pt)	3	Waste	4/21/97	22154
345850	Chico A4	780	4311	1	Pint (pt)	3	Waste	4/21/97	23776
345852	Led-plate Anti-seize Compound No 250	780	4311	1	Pound (lb)	3	Waste	4/21/97	41957
345853	Dripless Oil	780	4311	3.5	Fluid Ounce (oz	3	Waste	4/21/97	61090
345854	Yellow 77 Wire Pulling Lubricant	780	4311	1	Gallon (gal)	3	Waste	4/21/97	2184

SHORT CHEMICAL REPORT

12/19/97

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BarCode	Chemical	Building	Loc. Code	Size	Units	Status ID	Status	Date Inv.	Profile ID	
227583	Silky Furniture & Equipment Polish	779	2609	1	QUART (QT)	3	Waste	12/05/94	45500	Declared waste 9/29/97.
227589	Window Cleaner (kw)	779	2609	1	QUART (QT)	3	Waste	10/2/97	39386	Declared waste 9/29/97.
228564	M-15 Cleaner	779	2609	1	GALLON (GAL)	3	Waste	12/05/94	53128	Declared waste 9/29/97.
228595	Scouring Powder - Glass Cleaning	779	2609	14	WEIGHT	3	Waste	12/05/94	2076	Declared waste 9/29/97.
228596	Por-san Porcelain Cleaner	779	2609	32	FLUID OUNCE	3	Waste	12/05/94	35089	Declared waste 9/29/97.
228600	Scouring Powder - Glass Cleaning	779	2609	14	WEIGHT	3	Waste	12/05/94	2076	Declared waste 9/29/97.
232043	Scouring Powder - Glass Cleaning	779	2609	14	WEIGHT	3	Waste	12/05/94	2076	Declared waste 9/29/97.
232044	Bon Ami Polishing Cleanser	779	2609	14	Fluid Ounce (oz	3	Waste	10/1/97	1367	Declared waste 9/29/97.
232045	Bon Ami Polishing Cleanser	779	2609	14	Fluid Ounce (oz	3	Waste	10/1/97	1367	Declared waste 9/29/97.
234636	Por-san Porcelain Cleaner	779	2609	2	POUND (LB)	3	Waste	12/05/94	35089	Declared waste 9/29/97.
234641	Bon Ami Polishing Cleanser	779	2609	14	Fluid Ounce (oz	3	Waste	10/1/97	1367	Declared waste 9/29/97.
234659	Bon Ami Polishing Cleanser	779	2609	14	Fluid Ounce (oz	3	Waste	10/1/97	1367	Declared waste 9/29/97.
236189	Scouring Powder - Glass Cleaning	779	2609	14	WEIGHT	3	Waste	12/05/94	2076	Declared waste 9/29/97.
236664	Helium	779	2484	93	LITER (L)	3	Waste	10/12/95	27705	Declared waste 9/29/97. Ready for free release
237440	Thorium Oxide	779	2714	100	Gram (gr)	3	Waste	12/6/96	14251	Declared waste 9/29/97. rm. 159
237452	Thorium Oxide	779	2714	100	GRAM (GR)	3	Waste	12/05/94	14251	Declared waste 9/29/97. rm. 159
237523	Thorium Nitrate	779	2714	1	POUND (LB)	3	Waste	12/05/94	52996	Declared waste 9/29/97. rm. 159
237524	Thorium Nitrate	779	2714	1	POUND (LB)	3	Waste	12/05/94	52996	Declared waste 9/29/97, rm. 159
246845	Elactrolyte Solution Df-e05	779	2714	450	MILLILITER	3	Waste	07/25/95	53443	rm. 159
246855	Salt Cakes	779	3784	1	QUART (QT)	3	Waste	10/15/97	36283	
246871	Elactrolyte Solution Df-e05	779	2714	450	MILLILITER	3	Waste	10/10/97	53443	rm. 159
262613	Smoke Simulation Fluid	779	2609	1	Gallon (gal)	3	Waste	10/2/97	36910	Declared waste 9/29/97.
271124	Used Machine Coolant	779	1453	1	GALLON (GAL)	3	Waste	11/13/96	53243	Declared waste 9/29/97.
271141	Used Machine Coolant	779	1453	2	LITER (L)	3	Waste	11/13/96	53243	Declared waste 9/29/97.
278644	Ajax Cleanser	779	2609	21	Weight Ounce	3	Waste	12/6/96	3362	Declared waste 9/29/97.
278645	Por-san Porcelain Cleaner	779	2609	32	FLUID OUNCE	3	Waste	06/06/95	52976	Declared waste 9/29/97.
278792	Calcium Metal	779	2609	100	GRAM (GR)	3	Waste	06/11/96	217	
339156	Duoseal Vacuum Pump Oil *	779	3459	1	Quart (qt)	3	Waste	2/18/97	6515	Radian, 3/14/97
339223	Trisodium Phosphate	779	2609	1	Pound (lb)	3	Waste	10/2/97	46105	Declared waste 9/29/97.
345343	Flux, Kester Rosin Soldering	779	3749	1	Quart (qt)	3	Waste	3/31/97	26909	
345350	Organic Soldering Flux #2331	779	2822	1	Quart (qt)	3	Waste	3/31/97	31917	
345820	Duoseal Vacuum Pump Oil *	779	3459	1	Quart (qt)	3	Waste	2/18/97	6515	Radian, 3/14/97
379538	Dow Corning 999-a Silicone Glazing	779	2822	10	Fluid Ounce (oz	3	Waste	10/15/97	6373	rm. 114
381262	3-m Brand Fire Barrier Cp-25 Wb Water	779	2822	10.5	Fluid Ounce (oz	3	Waste	10/15/97	1074	rm. 114
401783	Soldering Flux	779	2822	1	Quart (qt)	3	Waste	12/2/97	41467	
401784	Stay Clean Soldering Fluxes *	779	2822	150	Milliliter (ml)	3	Waste	11/30/97	13580	

SHORT CHEMICAL REPORT

BarCode	Chemical	Building	Loc. Code	Size	Units	Status ID	Status	Date Inv.	Profile ID	
16630	Isocyanate Activators, Hardners &	779	2822	200	Milliliter (ml)	3	Waste	11/13/97	802	rm. 114
16631	98.34% Mercury And 1.66% Cesium	779	2714	5	Pound (lb)	3	Waste	11/11/97	67923	159
16632	89.8% Mercury, 8.2% Thallilum, 2.0%	779	2714	5	Pound (lb)	3	Waste	11/11/97	67924	159
16633	4-molar Kcl (potassium Chloride)	779	2714	30	Milliliter (ml)	3	Waste	11/20/97	53607	
17067	Protects-all	779	2822	15	Fluid Ounce (oz	3	Waste	10/2/97	35513	Declared waste 9/29/97. Rm. 114
17068	Tri-flow	779	2822	4	Fluid Ounce (oz	3	Waste	10/2/97	14516	Declared waste 9/29/97. Rm. 114
17069	Cleaner, Magnetic Head	779	2822	4	Fluid Ounce (oz	3	Waste	10/2/97	41697	Declared waste 9/29/97. Rm. 114
17070	#140 Stik-wax	779	2822	200	Milliliter (ml)	3	Waste	10/2/97	20206	Declared waste 9/29/97. Rm. 114
17071	17278a Black Toner Pre-mix	779	2822	1	Gallon (gal)	3	Waste	10/2/97	67470	Declared waste 9/29/97. Rm. 114
17072	Heavy Duty Liquid Laundry Detergent	779	2609	49	Fluid Ounce (oz	3	Waste	10/2/97	7863	Declared waste 9/29/97.
17073	Detergent, All Laundry	779	2609	49	Weight Ounce	3	Waste	10/2/97	58566	Declared waste 9/29/97.
17074	Trend Heavy Duty Laundry Detergent	779	2609	17	Weight Ounce	3	Waste	10/2/97	38593	Declared waste 9/29/97.
17075	Triple C Spray Cleaner	779	2609	12	Fluid Ounce (oz	3	Waste	10/2/97	58542	Declared waste 9/29/97.
17076	Triple C Spray Cleaner	779	2609	12	Fluid Ounce (oz	3	Waste	10/2/97	58542	Declared waste 9/29/97.
17077	Triple C Spray Cleaner	779	2609	12	Fluid Ounce (oz	3	Waste	10/2/97	58542	Declared waste 9/29/97.
17078	Spray 66 - Spray N' Clean	779	2609	1	Quart (qt)	3	Waste	10/2/97	205	Declared waste 9/29/97.
17081	MOLYKOTE (Need Better Description)	779	2609	12	Weight Ounce	3	Waste	10/2/97	41562	Declared waste 9/29/97.
17082	Nickel, Powder,-100 Mesh, 99.999%	779	2609	5	Gram (gr)	3	Waste	10/6/97	586	Declared waste 9/29/97.
17083	Thulium Chip	779	2609	5	Kilogram (kg)	3	Waste	10/6/97	14268	Declared waste 9/29/97.
17084	Thulium, Powder, Filings	779	2609	5	Kilogram (kg)	3	Waste	10/6/97	67966	Declared waste 9/29/97.
17085	Thulium, Powder, Filings	779	2609	5	Kilogram (kg)	3	Waste	10/6/97	67966	Declared waste 9/29/97.
17086	Thulium, Powder, Filings	779	2609	96	Gram (gr)	3	Waste	10/6/97	67966	Declared waste 9/29/97.
17087	Thulium, Powder, Filings	779	2609	5	Kilogram (kg)	3	Waste	10/6/97	67966	Declared waste 9/29/97.
17088	Thulium, Powder, Filings	779	2609	5	Kilogram (kg)	3	Waste	10/6/97	67966	Declared waste 9/29/97.
17089	Lutetium Oxide	779	2609			3	Waste	10/6/97	9192	Declared waste 9/29/97.
17090	Lutetium, Powder, Ca. 40 Mesh, 99.9%	779	2609	5	Gram (gr)	3	Waste	10/6/97	9193	Declared waste 9/29/97.
17091	Lutetium, Powder, Ca. 40 Mesh, 99.9%	779	2609	5	Gram (gr)	3	Waste	10/6/97	9193	Declared waste 9/29/97.
17092	Lutetium, Powder, Ca. 40 Mesh, 99.9%	779	2609	5	Gram (gr)	3	Waste	10/6/97	9193	Declared waste 9/29/97.
17093	Yttrium Metal (all Grades >99%)	779	2609	5	Gram (gr)	3	Waste	10/6/97	938	Declared waste 9/29/97.
17094	Yttrium Metal (all Grades >99%)	779	2609	5	Gram (gr)	3	Waste	10/6/97	938	Declared waste 9/29/97.
17095	Yttrium	779	2609	5	Gram (gr)	3	Waste	10/6/97	61691	Declared waste 9/29/97.
17096	Aluminum Oxide	779	2609	5	Gram (gr)	3	Waste	10/6/97	3591	Declared waste 9/29/97.
17097	Molybdenum Metal Powder*	779	2609	5	Gram (gr)	3	Waste	10/6/97	9893	Declared waste 9/29/97.
17098	Molybdenum Metal Powder*	779	2609	5	Gram (gr)	3	Waste	10/6/97	9893	Declared waste 9/29/97.
17099	Copper	779	2609	5	Gram (gr)	3	Waste	10/6/97	5591	Declared waste 9/29/97.
17100	Bismuth	779	2609	5	Gram (gr)	3	Waste	10/6/97	44470	Declared waste 9/29/97.
222841	Ajax Cleanser	779	2609	21	Weight Ounce	3	Waste	12/6/96	3362	Declared waste 9/29/97.
222842	Bon Ami Polishing Cleanser	779	2609	14	Fluid Ounce (oz	3	Waste	10/1/97	1367	Declared waste 9/29/97.
222843	Por-san Porcelain Cleaner	779	2609	32	FLUID OUNCE	3	Waste	06/06/95	52976	Declared waste 9/29/97.

SHORT CHEMICAL REPORT

BarCode	Chemical	Building	Loc. Code	Size	Units	Status ID	Status	Date Inv.	Profile ID	
16589	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	C2 H5 C6 H5 Oct - 2,4 - Diyne (mirror image), tube # 2. rm. 159
16590	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	C2 H5 C6 H5 Oct - 2,4 - Diyne (mirror image), tube #8. rm. 159
16591	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	(C H2 OH)2 Ethylene Glycol, tube #3. rm. 159
16592	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	(C H2 OH)2 Ethylene Glycol, tube #5, rm. 159
16593	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	C6 F6 Lexafluorobezene, tube #4, rm. 159
16594	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	CH3 OH Methanol, tube #6, rm. 159
16595	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	CH3 OH Methanol, tube #7, rm. 159
16596	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	CH3 OH Methanol, tube #9, rm. 159
16597	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	(CH3 O)5 and (CH3)10 Carbon tetrachloride methanol, tube #1, rm. 159
16598	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	"B-2" cp3 B in THF and TMS, tube #8, rm. 159
16599	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	U cp3 cl in CS2 and TMS (tetramethysilane, tube #5, rm. 159
16600	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	U cp3 cl in CS2 (carbon disulfide) and TMS (tetramethysilane), tube #10, rn
16601	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	U cp3 in CHCl3 (trichloromethane = chloroform, tube #3, rm. 159
16602	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	U cp4 in THF, tube #6, rm. 159
16603	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	U cp4 in THF, tube #9, rm. 159
16604	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	C-5, Ucp2 Cl, C6H6} benzene tube #2, rm. 159
16605	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	C-5, Ucp2 Cl, C6H6} benzene tube #4, rm. 159
16606	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	C-5, Ucp2 Cl, C6H6} benzene tube #11, rm. 159
16607	Capillary Tubes In Aluminum Crucible	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67795	C-5, Ucp2 Cl, C6H6} benzene tube #7, rm. 159
16608	Mercury	779	2714	100	Milliliter (ml)	3	Waste	10/15/97	1926	159
16609	Silver *	779	2714	450	Milliliter (ml)	3	Waste	10/15/97	12700	159
16610	Uranium Standard	779	2714	20	Milliliter (ml)	3	Waste	10/15/97	38877	159
16611	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 275 F
16612	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 250F
16613	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 213F
16614	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 300F
16615	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 325F
16616	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 350F
16617	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 450F
16618	Vanadium Powder	779	2644	250	Milliliter (ml)	3	Waste	10/15/97	45754	
16619	Activated Charcoal	779	2644	200	Milliliter (ml)	3	Waste	10/15/97	20988	
16622	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16623	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16624	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16625	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16626	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16627	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16628	Dry Silver Paper	779	2822	5	Pound (lb)	3	Waste	10/29/97	16074	rm. 114
16629	Aliphatic Isocyanate Reactant -	779	2822	50	Milliliter (ml)	3	Waste	11/13/97	3422	rm. 114

SHORT CHEMICAL REPORT

BarCode	Chemical	Building	Loc. Code	Size	Units	Status ID	Status	Date Inv.	Profile ID	
8451	Aluminum	779	2609	5	Gram (gr)	3	Waste	10/6/97	3526	Declared waste 9/29/97.
8452	Aluminum	779	2609	5	Gram (gr)	3	Waste	10/6/97	3526	Declared waste 9/29/97.
8453	Paint Product 40-9219	779	2822	1	Gallon (gal)	3	Waste	10/7/97	10876	Declared waste 9/29/97. Rm. 114
8454	Ajax Cleanser	779	3081	21	Weight Ounce	3	Waste	10/8/97	3362	Declared waste 9/29/97, in rm. 233
8457	Lens Cleaner	779	2469	2	FLUID OUNCE	3	Waste	10/8/97	29264	rm. 233
8458	Tempilstik Temperature Indicator	779	2714	1	Gram (gr)	3	Waste	10/10/97	13995	rm. 159, eight sticks are in one container, 550F
8459	C-100 Molybdenum Anti-sieze	779	2714	1	Fluid Ounce (oz	3	Waste	10/10/97	4704	rm. 159
8460	Elocrolyte Solution Df-e05	779	2714	450	MILLILITER	3	Waste	10/10/97	53443	rm. 159
8461	Elocrolyte Solution Df-e05	779	2714	450	MILLILITER	3	Waste	10/10/97	53443	rm. 159
8462	Helium	779	2714	3	Fluid Ounce (oz	3	Waste	10/10/97	54849	Mfg. is M G Industries, item in rm. 159
8485	3-m Fc-43 Fluorinert Brand Electronic	779	2609	450	MILLILITER	3	Waste	10/11/97	1848	
8492	Hydraulic Oil	779	2822	32	Fluid Ounce (oz	3	Waste	10/15/97	27909	rm. 114
8493	Pl-200 Multi Purpose Adhesive	779	2822	10	Fluid Ounce (oz	3	Waste	10/15/97	34676	rm. 114
8494	Ink Sheaffer Skip	779	2822	2	Pound (lb)	3	Waste	10/15/97	63007	rm. 114
8495	Carter's Stamp Pad Inks	779	2822	2	Fluid Ounce (oz	3	Waste	10/15/97	4934	rm. 114
8496	Color Putty*	779	2822	1	Pound (lb)	3	Waste	10/15/97	5491	rm. 114
8497	Dow Corning 732 Multi-purpose	779	2822	3	Fluid Ounce (oz	3	Waste	10/15/97	1106	rm. 114
8498	Silicone Adhesive Sealant Clr	779	2822	3	Fluid Ounce (oz	3	Waste	10/15/97	52	rm. 114
8499	3-m Interam Firedam 150 Caulk	779	2822	10	Fluid Ounce (oz	3	Waste	10/15/97	1075	rm. 114
8500	3-m Interam Firedam 150 Caulk	779	2822	10	Fluid Ounce (oz	3	Waste	10/15/97	1075	rm. 114
16379	Tech-met Laboratory Furniture Polish	779	2822	1	Pint (pt)	3	Waste	9/29/97	911	Declared waste 9/29/97. Rm. 114
16432	Por-san Porcelain Cleaner	779	2609	32	FLUID OUNCE	3	Waste	06/06/95	52976	Declared waste 9/29/97.
16433	Por-san Porcelain Cleaner	779	2609	32	FLUID OUNCE	3	Waste	06/06/95	52976	Declared waste 9/29/97.
16573	Foamy Q & A	779	2714	1	Gallon (gal)	3	Waste	10/15/97	1622	rm. 159
16574	Tapfree	779	2714	1	Fluid Ounce (oz	3	Waste	10/15/97	38114	rm. 159
16575	Edge Protecting Lacquer	779	2714	2	Fluid Ounce (oz	3	Waste	10/15/97	52118	rm. 159
16576	Iron Sulfide	779	2609	5	Gram (gr)	3	Waste	10/6/97	67797	Declared waste 9/29/97.
16577	Cadmium*	779	2714	200	Milliliter (ml)	3	Waste	10/15/97	4728	159
16578	Chromium Powder	779	2714	200	Milliliter (ml)	3	Waste	10/15/97	585	159
16579	Chromium	779	2714	200	Milliliter (ml)	3	Waste	10/15/97	43659	159
16580	Cobalt	779	2714	200	Milliliter (ml)	3	Waste	10/15/97	1704	159
16581	Iron	779	2714	450	Milliliter (ml)	3	Waste	10/15/97	1865	159
16582	Magnesium	779	2714	450	Milliliter (ml)	3	Waste	10/15/97	9269	159
16583	Titanium Powder	779	2714	200	Milliliter (ml)	3	Waste	10/15/97	38466	159
16584	Titanium	779	2714	200	Milliliter (ml)	3	Waste	10/15/97	496	159
16585	Potassium Permanganate	779	2714	100	Milliliter (ml)	3	Waste	10/15/97	284	159
16586	Cr & Nitrate Salts	779	2714	250	Milliliter (ml)	3	Waste	10/15/97	67794	159
16587	Boron, Powder	779	2714	250	Milliliter (ml)	3	Waste	10/15/97	47626	159
16588	Nmr Capillary Tubes In Styrofoam Holder	779	2714	50	Milliliter (ml)	3	Waste	10/15/97	67796	C2 H5 C6 H5 Oct - 2,4 - Diyne (mirror image), tube #1. rm.159

SHORT CHEMICAL REPORT

12/19/97

VERSION 3.0

BarCode	Chemical	Building	Loc. Code	Size	Units	Status ID	Status	Date Inv.	Profile ID
16389	Talc Usp	782	4481	1	Pound (lb)	3	Waste	9/28/97	38075
16397	Trisodium Phosphate	782	4481	50	Pound (lb)	3	Waste	9/29/97	46105
109041	Thinner #76	782	4484	4	Fluid Ounce (oz	3	Waste	4/21/97	43208
143227	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
182837	Parks Lacquer Thinner	782	4484	5	Gallon (gal)	3	Waste	4/21/97	1231
230112	Talc	782	4481	1	Pound (lb)	3	Waste	8/26/97	13887
230113	Clear Plastic Spray Fixative	782	879	13	FLUID OUNCE	3	Waste	04/13/95	50752
230114	Clear Plastic Spray Fixative	782	879	13	FLUID OUNCE	3	Waste	04/13/95	50752
247025	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247030	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247033	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247034	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247037	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247041	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247046	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247048	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247057	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247063	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
247065	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122
250308	Activators - Polyamine Resin-waterbase	782	4484	1	Pint (pt)	3	Waste	4/21/97	1122

Rhone-Poulene is the manufacture.